# Vascular Flora of Concord, Massachusetts

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Thoreau's Climbing Fern (Lygodium palmatum) Concord, MA, November 7, 1978, by Ray Angelo

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### Introduction

Presented here is perhaps the most complete and detailed list that has been compiled to date of the vascular plant species that have been verified as growing wild in Concord, Massachusetts. It is likely that Concord, Massachusetts is the most intensely botanized town in the United States for the longest period of time, starting with the brothers, Edward and Charles Jarvis in the 1820's and 1830's and continuing to the present day. Concord is endowed not only with a rich literary and historical heritage, but also with a wealth of habitats – three rivers, many ponds, brooks, meadows, bogs, swamps, marshes, deciduous-coniferous woodlands, open sand plains, fields, hills, ledges, and acidic as well as some circumneutral soils. It is situated close enough to the Atlantic coast to pick up elements of the coastal plain flora coming up from the south and far enough north and inland to pick up some elements of the boreal forest flora extending southward from northern New England.

This author is privileged to have been one of those amateur botanists who lived in Concord for some years with the free time to explore its natural treasures almost daily during that time. In that time this author came to appreciate that even in a lifetime of daily botanizing it is not possible to know Concord's diverse flora completely. Doubtless those worthier amateurs of Concord's past came to realize this as well. These predecessors were Charles Jarvis (1800-26), Edward Jarvis (1803-89), Henry D. Thoreau (1817-62), Sophia Thoreau (1819-71), Edward S. Hoar (1823-93), Minot Pratt (1805-78), Horace Mann, Jr. (1844-1868), Alfred W. Hosmer (1851-1903), Richard J. Eaton (1890-1976) and Laurence E. Richardson (1893-1985). In the decade or so that this author botanized extensively in Concord there came the clear sense that the surface of all that was there had barely been scratched. Indeed, additional native species have been discovered in Concord in a very short period of time by William Brace during the late 1990s and early 2000s, and by Cole Winstanley in 2015-2016. As recently as 2019 a distinctive native species, Fallopia cilinodis, not known in Concord previously, was found on the first, brief botanizing trip here by Harvard botanist, Walter Kittredge. A hint of this understanding of the impossibility of grasping the depth and breadth of the flora of a township as varied as Concord is in Thoreau's Journal entry for April 2, 1856, "It will take you half a lifetime to find out where to look for the earliest flower," and in May 1853 when he comments, "how long some very conspicuous ones [flowers] may escape the most diligent walker, if you do not chance to visit their localities the right week or fortnight." In his manuscript of the Plants of Concord Minot Pratt states for Ligustrum vulgare (Common Privet) "In 1871, I first found an old bush growing wild in the old rocky pasture near the Lime-kiln, within two rods of a path I had traveled hundreds of times for the previous 25 years." See also this author's notes in this flora under the species Phegopteris connectilis and Castilleja coccinea for examples that point to how difficult it is for any one person to know a good portion of the flora of a township such as Concord, even with years of intensive botanizing.

Those who came before had the great advantage of a more open landscape in Concord. It has become more difficult to traverse due to the reforestation of New England since the mid- $19^{th}$  century. In addition there has been much more development of the land, even since the late 1970s and early 1980s when this author lived in Concord. Beautiful areas that were once explored have either been destroyed or are no longer accessible due to no-trespass posting. Thoreau even foresaw such a time coming. In his essay *Walking* he comments: "At present, in this vicinity, the best part of the land is not private property; the landscape is not owned, and the walker enjoys comparative freedom. But possibly the day will come when it will be

partitioned off into so-called pleasure grounds, in which a few will take a narrow and exclusive pleasure only, — when fences shall be multiplied, and man traps and other engines invented to confine men to the *public* road; and walking over the surface of God's earth, shall be construed to mean trespassing on some gentleman's grounds." Fortunately, Concord has ample and varied conservation areas where many of its rare native plants remain hidden and protected.

There is no question that the flora of Concord has changed since Thoreau's time, due in large part to the reforestation and development just mentioned, but also to other factors such as the increase in alien species spread via the greater mobility of people and greater interaction with the world at large. Other significant factors are changes in water quality, air quality, predation (due to changing animal populations, including insects and especially deer), pollination, climate, and perhaps other factors. To give some examples, Richard Eaton notes in his flora that in the 1930s the Concord rivers became significantly polluted with sewage. This had the consequence of reducing the acidity of the adjacent river meadows so that some species preferring acidic habitat that were formerly frequent in the meadows such as Sarracenia purpurea, Pogonia ophioglossoides, Platanthera psycodes and Arethusa bulbosa disappeared from these places and became limited to acidic habitat away from the rivers. Other species that prefer less acidic habitat such as Lemna minor became common or abundant in the rivers where they did not occur or were sparse before. The advent of deer in Concord in recent years has had an effect on the prevalence of some species in Liliaceae and Orchidaceae which deer have a preference for eating. Thoreau includes deer in a list of animals gone from Concord (March 23, 1856, Journal). This author never saw one there in all his rambles in the 1970s and 1980s. In 2007 this author saw one in Concord for the first time on one of the few visits there since leaving the town. The warming of the climate will inevitably lead to some more northerly species near the southern limit of their range retreating from Concord such as Linnaea borealis, rare even in Thoreau's time, now apparently gone. Correspondingly, species with more southerly ranges not previously occurring in Concord are likely to begin appearing here. See this author's article Angelo (2014).

This author is very thankful to have known Richard ("Dick") Eaton (1890-1976) in the last year of his life, to have followed in his footsteps as Curator of Vascular Plants for the New England Botanical Club, to have shared with him the very beginnings of finds in Concord, to have been treated to a lunch with him and his wife at his Cape Cod home, and to have had the honor (with the aid of his children) of writing a tribute to him for *Rhodora*, the journal of his beloved New England Botanical Club (Angelo 1987). It was fascinating when he said that as a youngster in Concord he had shoveled snow for a neighbor and had seen one of Thoreau's best friends, the reclusive Ellery Channing, who lived with the neighbor. It was well within the realm of possibility that Thoreau could have lived long enough for the young Dick Eaton to have met him too. The survival in Concord of numerous plant populations from Thoreau's time, many in the same localities where Thoreau, his successors and his predecessors saw them, offers the chance for us to become acquainted with other friends in Concord that Thoreau knew so well.

Richard Eaton was one of the four botanizers who has left to us extensive written records detailing their experience of the flora of Concord and which, in addition to significant herbarium collections of two of these and of others, form the foundation of this flora. Those other three are Minot Pratt (1805-1878), who left a lengthy manuscript on the plants of Concord to the Concord Free Public Library, Henry D. Thoreau (1817-1862), who left us his *Journal*, the later years of which are saturated with botanical notes some of which are yet unpublished, and Alfred W. Hosmer (1851-1903), who left to the Concord Free Public Library his voluminous, organized

notes on the flora of Concord and vicinity, particularly including flowering dates. All of these four except Pratt were born and raised in Concord.

Collections of pressed herbarium specimens are vital to verifying records of occurrence since the mere naming of a species in a written account does not mean that the plant is correctly identified. Of the four notable botanizers who left extensive written records only Thoreau and Eaton made extensive collections of herbarium specimens. Both men studied and collected the difficult grasses and sedges of Concord, unlike Pratt and Hosmer. This author cataloged the known specimen collections of Thoreau in 2019 and found there to be conservatively 1,503 collections (i.e., one or more specimens of the same taxon collected from the same site on the same date). Of these 367 are labeled as from Concord (or from other recorded data can be deduced to be collected from Concord), while 817 have no locality indicated, but the great preponderance of which are likely from Concord. Eaton's collections from Concord are difficult to enumerate since his specimens are spread out over a number of herbaria. All but a small number of his Concord collections are at Harvard University (856 specimens) and The New England Wild Flower Society (756 specimens). However, a significant number of the Eaton specimens of the two institutions are duplicate specimens. Two other collections of Concord plants that rival those of Thoreau and Eaton are those of native Concordians, Edward S. Hoar (1823-1893) and Laurence E. Richardson (1893-1985).

A compilation (Chapin 2003) of marginal annotations by Edward Jarvis (1803-1889) in his copy of *Florula Bostoniensis* (Bigelow 1824) for plant species primarily in Concord for the period 1834-1836 has been represented by some as a flora of Concord. But this is by no means the case. The majority of annotations consist only of a date or two. A mere date beside a species entry of a botanical manual does not provide any context to the observation (locality, habitat, abundance, cultivated or wild). It is perhaps assumed by some that the dates provided are flowering dates. While this might usually be true, it is unlikely always to be so, since, for example, dates are given for Lemna minor and Spirodela polyrhiza which seldom or rarely flower and which were uncommon or rare in Concord in Jarvis's time. Jarvis refers to his notes as representing "a large part of the plants growing in Concord Mass." Most of the references to occurrences outside of Concord have been omitted from the compilation, but some are included (such as Ostrya virginiana and Solidago caesia from Lincoln). In addition, the comparatively primitive state of taxonomy in the period 1824 to 1836 makes association with modern taxa problematical in a number of cases. Where localities in Concord or abundance information are given by Jarvis for taxa that can be associated confidently with modern taxa, these have been noted in this online flora. Some rare species claimed by Jarvis not reported by other Concord botanists include Malaxis unifolia "Near S and L Hosmer," Galearis spectabilis (as Orchis spectabilis) in "Meadow near [Fair] Haven Pond," and Ranunculus scleratus in "Merrick's pasture" [which included today's Old Calf Pasture]. A modest collection of about 100 specimens collected by Edward Jarvis from Concord is at the University of Massachusetts (Amherst), and has been used in this flora.

The 1,266 species and varieties included in the list below are all those that have been vouched for by herbarium specimens (or otherwise accepted) as growing wild in Concord. Some of these may no longer occur in Concord for various reasons, typically destruction or alteration of habitat or environmental change. As noted above, one of the foundations of the list here is Richard Eaton's excellent A Flora of Concord (Eaton 1974) which lists 1,252 species and varieties. However, many of the varieties in his list and some of the species are no longer recognized by

modern botanists as separate entities, and about 24 taxa (see Appendix C) are based on misidentified voucher specimens or are now considered to be hybrids. If these are removed from his list, the number in his flora would be a bit more than 1,160. To his flora list then this author has added about 100 species and varieties mostly collected by this author while living in Concord, by Cole Winstanley and by William Brace. Unlike Eaton's work, hybrids (difficult to determine positively without genetic study) and forms (not biologically significant) are not included in the list below, even if they are relatively common. The 1,266 species and varieties represent more than a third of New England's flora, which according to the Flora Novae Angliae (Haines 2011) amounts to 3,520 species and varieties, and 3,595 according to the Atlas of the Flora of New England (Angelo and Boufford 2019) without hybrids.

It is heartening to know that current-day professional botanists continue to explore Concord and make use of the observations of Concord's botanical explorers, past and present. This bodes very well for the continued vitality of interest in the flora of this venerable town. Tis author's hope is that various uses will be made of this flora - as a challenge to relocate species not seen in recent years, to realize when a new species in the town has been revealed, to aid in associating Thoreau's use of botanical names with modern nomenclature, or simply to marvel at the wealth of species appreciated by nature explorers of Concord in past centuries and how much is still there ... and how much yet to be found.

### Format of the flora

This flora is based with few exceptions on herbarium specimens in public herbaria that can be examined for verification. The exceptions are mostly photographic evidence that is unmistakable and for which location and date information has been recorded. In a couple instances Thoreau's description in his *Journal* of a rare, distinctive species is accepted.

All vascular plant species and their subspecies and varieties (but not forms or hybrids) growing in the wild in Concord, Massachusetts that have been documented are included in this flora. Specimens growing in lawns, gardens, driveways, under birdfeeders, residential ponds or in nurseries or in cultivated fields are not accepted as vouchers of occurrence for the wild flora. Also, plantations that merely persist and have not spread are excluded, as well as waifs – one or a few specimens that appear for a season or two in a given location before disappearing.

The species are grouped alphabetically under their genus, the genera are grouped alphabetically under their family, and the families are grouped alphabetically within a classical **category** which are given in the following order:

Pteridophytes (ferns and fern allies) Gymnosperms (conifers) Monocots (grasses, sedges, rushes, lilies, orchids, pondweeds, and related families) Dicots (all other families)

Due to the length of this flora users will find it easiest to navigate to a species by performing a search of the document for the genus name, or, for species in large genera, under the scientific name using both genus and species.

For each of the above categories the following statistics are given at the beginning of the listing of species in that category:

Number of families in the category

Number of genera in the category

Number of species, subspecies and varieties in the category

Number of the preceding that are alien [not considered native to Concord, MA]

Number of species, subspecies and varieties in this flora in the category recognized or collected by Thoreau in Concord

Number of species, subspecies and varieties in this flora in the category listed by Minot Pratt in his manuscript flora of plants from Concord excluding his introduced species Number of species, subspecies and varieties in this flora in the category listed by Alfred W. Hosmer specifically from Concord in his manuscript notes on the flora of Concord and vicinity

The scientific **family** names are those used in the online *Atlas of the Flora of New England* (Angelo & Boufford, 2016) which in turn are based primarily upon the Angiosperm Phylogeny Website (<a href="http://www.mobot.org/MOBOT/research/APweb/">http://www.mobot.org/MOBOT/research/APweb/</a>). For each family the equivalent family name in *Gray's Manual of Botany*  $8^{th}$  ed. (Fernald, 1950) is given in parentheses after "GM8," as well as the equivalent family name used in Thoreau's time after "TH" which is primarily the family name or names used in Asa Gray's *Manual of the Botany of the Northern United States*  $2^{nd}$  ed. (Gray, 1856).

Each **species**, **subspecies** or **variety** is listed by its scientific name in alphabetical order within its genus, and the genera alphabetically within each family. If more than one subspecies or variety occurs in Concord, the typical subspecies or variety is always listed first (contrary to the alphabetical scheme). The scientific names are those used in the online *Atlas of the Flora of New England* (Angelo & Boufford, 2016) which in turn are based primarily upon the *Flora of North America* (Flora of North America Editorial Committee, 1993-).

## Each of the **species entries** has the following format:

Genus name, species name, subspecies name (if any), varietal name (if any) - For plants that are not native to Concord the names are given in upper case.

Following the scientific name in parentheses is the *Gray's Manual of Botany* equivalent name or names (GM8), if any, and the name or names used in Thoreau's time (TH). In a number of cases the species, subspecies or variety was not scientifically described until after Thoreau's death or simply was not treated in the manuals used by Thoreau and is so stated.

Below the scientific name is the common name, if any. Common names are taken from the online Atlas of the Flora of New England (Angelo & Boufford, 2016) which are primarily taken from Gray's Manual of Botany 8<sup>th</sup> ed. (Fernald. 1950). Many or most plants do not have a common name. English names generated simply by translating the Latin or Greek of scientific names and that have not been in long use by the lay public are not accepted here as common names.

Below the scientific name and any common name the text entry first provides information, if any, by the four Concord botanizers who left floras (published or

unpublished) of Concord or extensive botanical notes. This includes frequency of occurrence of the species in Concord in their time and in most cases where in Concord they saw it. These four botanizers in the order their information is generally given are: Minot Pratt (1805-78), Alfred W. Hosmer (1851-1903), Richard J. Eaton (1890-1976), and Henry D. Thoreau (1817-1862). Unlike the others, Thoreau did not lreave behind a list of Concord plants he found. For Thoreau the information is given based on his Journal and information on his collected specimens. This flora notes approximately how many times he referred to the species in his Journal (to give a measure of is frequency of occurrence) and whether there are specimens he collected from Concord in his herbarium. Thoreau typically provided the location of collection for specimens not collected in Concord, and most often left n information for specimens collected in Concord. Following the information of the four botanizers information is given approximately in chronological order for uncommon or rare plants. This includes where in Concord these have been collected or seen, when, by whom, and in what herbarium any voucher specimens reside. The herbaria are denoted by standard acronyms, the most common being NEBC (New England Botanical Club Herbarium) and GH (Gray Herbarium), both at Harvard University. A complete list of herbarium acronyms used is given below in the abbreviations section. Most place names in Concord used by Thoreau (and often used by others) can be pinpointed using this author's online reference Thoreau Place Names. Lastly, a particular herbarium specimen is cited as the voucher for occurrence in Concord, typically along with a link to an image (if available) of the specimen. Specimens selected are this author's choice, generally the oldest, wellcollected specimen. If not vouched for by a specimen, the photographic or other evidence is described. Some photographic vouchers are in Appendix F and Appendix G of this flora.

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### **FLORA LIST**

Abbreviations:

BEDF = Herbarium of the New England Wild Flower Society (including the herbarium formerly at Harvard's Concord Field Station in Bedford, MA)

CONN = Herbarium at the University of Connecticut

GH = Gray Herbarium (housed at Harvard University Herbaria)

GM8 = Name in *Gray's Manual* 8<sup>th</sup> ed. (Fernald 1950)

MASS = University of Massachusetts at Amherst herbarium

NEBC = New England Botanical Club herbarium (housed at Harvard University Herbaria)

TH = Name in Thoreau's time

VT = Pringle Herbarium at the University of Vermont

"Pratt" refers to Minot Pratt. "Hosmer" refers to Alfred W. Hosmer. "Eaton" refers to Richard J. Eaton. "Jarvis" refers to Edward Jarvis.

Species entries given in upper case are ones not native to Concord.

Note: Statements in the list below "no specimen in Thoreau herbarium" sometimes means only no specimens collected from Concord, Massachusetts.

Those who are looking for habitat information should consult some of the references above, in particular Angelo and Boufford (2016), Flora of North America (1993-), Eaton (1974), Haines (2011), Fernald (1950), and Angelo (1984).

Totals (numbers below count only species in this flora, see appendices for other reported species):

Families: 138 Genera: 535 Species: 1,266 Native species: 880

Alien species (not native to Concord): 386

Species recognized or collected by Thoreau in Concord: 795 (116 alien species)

Species listed by Pratt from Concord excluding his introductions: 584 (95 alien species)

Species listed or collected by Hosmer from Concord: 665 (160 alien species)

**PTERIDOPHYTES** (18 families; 30 genera; 57 species) [3 alien species; 37 species in this flora recognized or collected by Thoreau in Concord; 28 species in this flora listed by Pratt from Concord excluding his introductions; 40 species in this flora listed or collected by Hosmer from Concord]:

**Aspleniaceae** (GM8: Polypodiaceae (in part); TH: Filices (in part))

Asplenium platyneuron (GM8: same; TH: Asplenium ebeneum) EBONY SPLEENWORT

Pratt and Hosmer say this is common. Eaton calls it uncommon and only at two stations (see his voucher specimen locations below). Specimen in Thoreau herbarium is undated and without locality. Thoreau's three *Journal* references are on the same dates at the same places

as for Asplenium trichomanes (see below). Eaton collected this on August 1, 1957 on gravelly, wooded talus at Conantum Cliff [Conantum Cliffs; see *Thoreau Place Names*] (NEBC specimen). This author saw this at Martha's Point (Thoreau's Bittern Cliff), Lee's Cliff and behind the former residence of Esther Anderson at 262 Garfield Road, all these on Conantum, and also along a brook west of Annursnack Hill. Cole Winstanley confirmed this still present in 2015 at the lime quarries (see below). Cherrie Corey reported finding this in May 2016 growing out of the mortar of William Brewster's canoe shed by the Concord River at Ball's Hill. On June 25, 2016 Cole Winstanley found this at Thoreau's Sugar Maple Grove, which is in the same general vicinity as the colony this author found behind the former residence of Esther Anderson noted above. Voucher specimen in NEBC collected by Eaton on October 30, 1921 on a rocky ledge in the lime quarry in Estabrook Woods. Link to image.

ASPLENIUM RHIZOPHYLLUM (GM8: Camptosorus rhizophyllus; TH: same) WALKING FERN

Minot Pratt's list indicates he introduced this from Vermont. Hosmer says it was at Pratt's Spring (Swamp), the lime kiln and the lime quarry, all of these in the Estabrook Woods. Eaton says Pratt introduced it into the lime quarry in Estabrook Woods about 1860 and excludes it from his list. No specimen in Thoreau herbarium or reference to it in his *Journal*. This author saw it in the lime quarry but not at the kiln or Pratt's Spring. It is included here since it has established itself at least in the quarry, although all occurrences in Concord are introductions (no doubt from Pratt) outside of its native range. Voucher specimen in NEBC collected by Eaton on May 30, 1956 in crevice on wall of shallow quarry in the lime quarries of Estabrook Woods. Link to image.

Asplenium trichomanes (GM8: same; TH: same)

MAIDENHAIR SPLEENWORT

Pratt says this is common on cliffs. Hosmer refers to it only at Conantum. Eaton says it is rare and only at two stations. Specimens in Thoreau herbarium are undated and without locality. Thoreau refers to this three times in his *Journal*. On August 30, 1853 he notes it as common at Lee's Cliff. On July 17, 1857 he mentions it at Bittern Cliff [now Martha's Point] and Lee's Cliff. This author saw it at Lee's Cliff, the Conantum Cliffs and a tiny patch at Martha's Point – all Conantum locations. This author also found it growing in the mortar of a stone wall in neighboring Bedford, so that it might show up in such an unnatural habitat in Concord. Cole Winstanley confirmed that least 20 plants in three patches still persisted at Martha's Point in May 2016. Voucher specimen in NEBC collected by Eaton on June 19, 1932 in crevice of dioritic cliff at the Conantum Cliffs. Link to image.

## **Athyriaceae** (GM8: Polypodiaceae (in part); TH: Filices (in part))

Athyrium filix-femina var. angustum (GM8: Athyrium filix-femina var. michauxii; TH: Aspidium filix-foemina, Asplenium filix-foemina, Athyrium filix-foemina (in part))
LADY FERN

Pratt does not list this. It is included without comment in an addendum of three loose pages associated with his manuscript after his death. Hosmer and Eaton note this as common. Three specimens in Thoreau herbarium are undated and without locality except for one collected at the Corner Spring on July 17, 1857. Thoreau refers to this only five times in his *Journal*. Eaton collected this on August 17, 1957 at the edge of an old wooded road [Estabrook Road] in the Estabrook Woods, and on June 22, 1930 on a shaded bank in the vicinity of Goose Pond near Lone Tree Hollow [Eaton's name for a sinkhole on a woodlot west

of Sandy Pond Road and north of Route 2 where Linnaea and Hepatica once grew] (NEBC specimens). Voucher specimen in NEBC collected by Eaton on June 16, 1957 in low woods near brook behind Angiers Mill. Link to image.

**Blechnaceae** (GM8: Polypodiaceae (in part); TH: Filices (in part))

WOODWARDIA AREOLATA (GM8: same; TH: Woodwardia angustifolia)

**NETTED CHAIN FERN** 

Pratt's list says this was introduced from Vermont, although this species does not occur in Vermont. Hosmer simply notes this (as Asplenium angustifolium) at Pratt's Swamp. Hosmer also includes this in a list of Pratt introductions published in *Rhodora* 1:171 (1899). Eaton never saw this in Concord (since he never saw Pratt's Spring) and lists it in his Appendix as very unlikely to occur in Concord. No specimen in Thoreau herbarium or reference to it in his *Journal*. This author found it well-established at Pratt's Spring in 1982. Voucher specimen in NEBC collected by this author on July 23, 1982 in rich woods beside brook near Pratt's Spring west of Punkatasset Hill, about 50 plants in each of two sites. Link to image.

Woodwardia virginica (GM8: same; TH: same)

#### VIRGINIA CHAIN FERN

Pratt and Hosmer say this is common in Concord bogs. Eaton says it is uncommon and notes its former occurrence at Ledum Swamp and White Pond Bog, that he called only the second known station. No specimen in Thoreau herbarium. There are about 6 references to this in Thoreau's Journal. On September 6, 1858 Thoreau notes this fern at Ledum Swamp, the only locale where he found this in Concord. On September 8, 1858 Thoreau records going to Owl Swamp, corresponding to the date and location of the Edward Hoar voucher specimen. However, Hoar on his specimen label notes Ledum [Rhododendron groenlandicum] present with this fern. But the rare Rhododendron groenlandicum has never been found at Owl Swamp [Owl Nest Swamp]. Therefore, Hoar most likely confused his collection date (September 8, 1858) and place (Owl Swamp) with September 6, 1858 when Thoreau notes this fern at Ledum Swamp and was probably accompanied by Hoar. Eaton collected this on August 14, 1957 at White Pond Bog "in deep sphagnum where locally abundant" (BEDF specimen). This author found it in 1978 in White Pond Bog, Hugh Carghill Bog [Boaz's Meadow], and the Nuclear Metals Bog [Tarbell's Swamp]. These last two bogs were clearly unknown to Eaton as he fails to mention notable native plants easily found at these bogs. Cherrie Corey confirmed the continued existence of this in abundance in the Boaz's Meadow. photographing it in 2013. Cole Winstanley photographed an abundant colony of this in the middle and far edge of the remnants of a bog east of the northern end of Angier's Pond in August 2015 and photographed another small colony in October 2015 at the east end of Ministerial Swamp under a holly thicket. On June 12, 2016 Cole Winstanley found a large amount of this in the middle of the eastern Kalmia Swamp. In June 2016 Cole Winstanley also found a small colony of this in a ditch in a beech-pine woodland with understory of Smilax rotundifolia and Clethra about 50 meters from the Lincoln line about halfway between Cambridge Turnpike and Lexington Road. In July 2016 Cole Winstanley found this in the small spruce swamp just south of Laws Brook Road. Voucher specimen in NEBC collected by Edward Hoar on September 8 [most likely the 6<sup>th</sup> as noted above], 1858 at "Owl Swamp [most likely at Ledum Swamp as noted above] with Ledum groen.[landicum]." Link to image.

**Dennstaedtiaceae** (GM8: Polypodiaceae (in part); TH: Filices (in part))

Dennstaedtia punctilobula (GM8: same; TH: Dicksonia punctilobula)

HAY-SCENTED FERN

Pratt notes this as very common. Hosmer (as Dicksonia pilosiuscula) and Eaton say it is common. Specimens in Thoreau herbarium are undated and without locality. There are about 30 references to this in Thoreau's *Journal*. Eaton collected this on June 29, 1930 on his wood-lot at Goose Pond (BEDF specimen), on July 16, 1957 on a dry railroad bank near the entrance to the middle dyke at Great Meadows (BEDF specimen), and on June 8, 1957 east of White Pond Bog (specimen now missing). Voucher specimen in NEBC collected by Emile Williams on August 15, 1908 with no locale within Concord given. Link to image.

Pteridium aquilinum subsp. latiusculum (GM8: Pteridium aquilinum var. latiusculum; TH: Pteris aquilina)

#### **BRACKEN**

Pratt, Hosmer and Eaton all note this as common. Specimens in Thoreau herbarium are undated and without locality. There are about 40 references to this in Thoreau's *Journal*. Laurence Richardson collected this on June 27, 1961 at the foot of [Fair Haven] Cliffs (BEDF specimen). Voucher specimen in NEBC collected by Eaton on June 8, 1930 in dry woods in a wood lot at Goose Pond. Link to image.

## **Dryopteridaceae** (GM8: Polypodiaceae (in part); TH: Filices (in part))

Deparia acrostichoides (GM8: Athyrium thelypteroides; TH: Asplenium thelypteroides) SILVERY SPLEENWORT

Pratt says this is on the lime kiln road near the Easterbrook place which is in the Estabrook Woods. Hosmer lists this without comment. Eaton says it is very scarce. No specimen in Thoreau herbarium. Thoreau in his *Journal* only mentions finding this at Saw Mill Brook (September 24, 1856) which might be in Lincoln. This author found the population mentioned by Pratt about 100-200 meters northeast of the Easterbrook House site in 1980. On June 26, 2016 Cole Winstanley confirmed the continuing presence at the Pratt site, hundreds of plants in a wide swath. Voucher specimen in NEBC collected by Eaton on August 6, 1958 in cool, rocky woods at Conantum. Link to image.

Dryopteris campyloptera (GM8: Dryopteris spinulosa var. americana + D. spinulosa var. concordiana; TH: Aspidium spinulosum var. dilatatum (in part))

MOUNTAIN WOOD FERN

This record is based on the collection of an unusual variety found at a single locality in rich, swampy woodland in Concord in 1902 and 1903 and given the varietal name "concordiana," first named in *Rhodora* 6:31 (1904). This is presently not considered to be a distinct variety or species but is included in D. campyloptera, the distribution of which is mostly north and west of Concord in New England. Eaton says it has not been recently collected. Multiple specimens collected by H.A. Purdie and G.E. Davenport from the same station in 1903 are in GH and NEBC. The type description and one of the specimen labels indicate this occurred in rich, swampy woodland on William Brewster's October Farm. Voucher specimen in GH collected by H.A. Purdie (and William Brewster according to type description, but not listed on label) on August 25, 1902 with no locale within Concord given on the label. Link to image.

Dryopteris carthusiana (GM8: Dryopteris spinulosa var. spinulosa; TH: Aspidium spinulosum (in part))

### SPINULOSE WOOD FERN

Pratt and Hosmer do not list this (but probably listed as "common" by Pratt under the name Aspidium spinulosum var. dilatata). Eaton says this is rather common. Undated specimen in Thoreau herbarium was collected "on Mill Swamp." There are about 7 references in Thoreau's Journal to "Aspidium spinulosum" which could be Dryopteris carthusiana or Dryopteris intermedia or two hybrids. The Mill Swamp referred to on the herbarium specimen is almost certainly the reference on October 31, 1857 where he mentions "Aspidium spinulosum (?)" found "In the Lee farm swamp, by the old Sam Barrett mill site,". Eaton collected this on June 16, 1957 near Angier's Mill (BEDF specimen). Laurence Richardson collected this on June 8, 1960 at Second Division [Brook] (BEDF specimen). Voucher specimen in NEBC collected by Eaton on June 8, 1957 in low woods at Harrington's Swamp [also known as Ministerial Swamp or the Old Rifle Range]. Link to image.

Dryopteris cristata (GM8: same; TH: Aspidium cristatum)

## CRESTED WOOD FERN

Pratt and Hosmer note this as common. Eaton says it is frequent. Specimen in Thoreau herbarium is undated and without locale. There are about 8 references to this in Thoreau's *Journal*. Eaton and George Cottrell collected this on June 8, 1957 in low woods at the west end of Harrington's Swamp [Ministerial Swamp] (BEDF specimen). Voucher specimen in GH collected by F.G. Floyd on August 17, 1902 in low shady woods at Sweetwater Spring on Second Division Road. Link to image.

Dryopteris intermedia (GM8: Dryopteris spinulosa var. intermedia; TH: Aspidium spinulosum (in part))

#### **GLANDULAR WOOD FERN**

Pratt and Hosmer note this (as Aspidium spinulosum var. intermedium) as common. Eaton says this is frequent. Specimen in Thoreau herbarium identified by Walter Kittredge as likely this without date or locality. In Thoreau's time this was generally not distinguished from what is now known as D. carthusiana. Specimens in NEBC cited by Eaton collected by Edward Hoar in November 1857 at Bateman's Pond and on September 20 (no year) at Fairy Land [Town Forest] are filed under Dryopteris x triploidea (carthusiana X intermedia). David Barrington, a fern specialist, identified the frond from Bateman's Pond as D. intermedia, while the other frond from Fairy Land (No. 2) as D. x triploidea. Eaton collected this on June 8, 1957 in rich, low woods west of White Pond Bog (BEDF specimen). Voucher specimen in GH collected by George Davenport with no date or locale within Concord given. Link to

Drvopteris marginalis (GM8: same; TH: same, Aspidium marginale) MARGINAL SHIELD FERN

Pratt oddly omits this from his list. Hosmer says it is common. Eaton calls it rather common. Two specimens in Thoreau herbarium are undated and without locality. There are about 12 references to this in Thoreau's Journal. Edward Hoar's collection on September 3, 1857 along the "Road to Waltham, Mass.", which is probably Route 126, is likely not in Concord (NEBC specimen). Marcia Cohen collected this on July 19, 1972 at the limestone quarries in the Estabrook Woods (BEDF specimen). Voucher specimen in BEDF collected by Laurence Richardson on July 4, 1961 at Annursnack Hill. Image not available.

Polystichum acrostichoides (GM8: same; TH: Aspidium acrostichoides)

## CHRISTMAS FERN

Pratt oddly omitted this from his list. Hosmer notes it as common. Eaton says there are numerous stations, but scarce. Specimen in Thoreau herbarium without date or locality. There are about 14 references to this in Thoreau's *Journal*. Eaton collected this on June 24, 1929 on his woodlot on a north-facing slope (BEDF specimen). Laurence Richardson collected this on June 18, 1961 at the foot of the [Fair Haven] Cliffs (BEDF specimen). Voucher specimen in NEBC collected by Eaton on October 30, 1921 in a damp grown-up pasture in the Estabrook woods on the east side of the road [Estabrook Road] opposite the lime pits. Link to image.

**Equisetaceae** (GM8: same; TH: same) - Pratt omits this family from his list.

Equisetum arvense (GM8: same; TH: same)

FIELD HORSETAIL

Hosmer says this is common. Eaton calls it common, often weedy. Two specimens in Thoreau herbarium without locality, one of them collected July 10 with no year. No apparent reference to it in Thoreau's *Journal* on this date. There are about 12 references to this in Thoreau's *Journal*. Laurence Richardson collected this on June 8, 1960 at the railroad near the Assabet River (BEDF specimen). Voucher specimen in NEBC collected by Edward Hoar on May 14, 1858 in Oak Meadow [now Mink Pond in the Estabrook Woods], mistakenly identified by him as Equisetum sylvaticum. Link to image.

Equisetum fluviatile (GM8: same; TH: Equisetum limosum, Equisetum uliginosum) WATER HORSETAIL

Hosmer says this is common. Eaton calls it frequent. Specimen in Thoreau herbarium dated Aug. 14, 1857. Thoreau's *Journal* has no entry for this date. There are about 40 entries in Thoreau's *Journal* referring to this species. Eaton collected this on June 29, 1959 in wet muck at the margin of the Sudbury River a few yards north of Martha's Point (BEDF specimen). Voucher specimen in NEBC collected by Hosmer with no date or locale within Concord given. Link to image.

Equisetum hyemale subsp. affine (GM8: Equisetum hyemale var. affine; TH: Equisetum hyemale)

#### COMMON SCOURING RUSH

Hosmer simply notes it at Dam Meadow. Eaton says is not common. Specimen in Thoreau herbarium with no date or locality. Thoreau refers to it in his *Journal* on Dec. 9, 1854 while surveying for T. Holden. It is marked on his survey map for Holden. There are about a dozen references to it in Thoreau's *Journal*. Eaton collected this on June 8, 1956 where this author collected it in 1979 as noted below, but Eaton's specimen at BEDF has been annotated, probably incorrectly, to Equisetum sylvaticum. This author found it at Thoreau's location in 1979 and also near the White Pond bog. This author collected it on August 22, 1979 just south of Sandy Pond Road near Route 2 (BEDF specimen). Voucher specimen in NEBC collected by Eaton on October 9, 1921 on the north slope of a wet bank near the source of Jenny Dugan Brook [near White Pond]. Link to image.

Equisetum sylvaticum (GM8: same, including var. pauciramosum; TH: same)

Hosmer says this is common. Eaton calls it infrequent. Two specimens in Thoreau herbarium without locale, one May 10, 1857 and the other undated. There are about 9 references to it in Thoreau's *Journal*. His *Journal* refers to this on May 10, 1857 at Clamshell Hill. Eaton collected this on June 8, 1957 in rich, wet, open woods east of White Pond Bog (NEBC specimen), and on September 8, 1957 on a shaded bank on the east side of Holden's Hill (BEDF specimen). Voucher specimen in NEBC collected by Eaton in a boggy place at G.[eorge F.] Root's farm [Intervale Farm on Sandy Pond Road] on June 12, 1932. Link to image.

**Isoëtaceae** (GM8: same; TH: Hydropterides (in part)) - This family not mentioned by Thoreau, Pratt or Hosmer.

Isoëtes echinospora (GM8: Isoëtes muricata; TH: not scientifically described until 1861)
BRAUN'S QUILLWORT

Eaton says this species is uncommon. He notes this from Bateman's Pond. No specimen in Thoreau herbarium. Horace Mann Jr. collected this in a stream in September 1863. Voucher specimen in NEBC collected by Eaton on July 25, 1957 in shallow water on a sandy east shore of Bateman's Pond. Link to image.

Isoëtes lacustris (GM8: Isoëtes macrospora; TH: same)

#### LAKE QUILLWORT

Eaton says this is rare. This has been collected in Concord only from Walden Pond. No specimen in Thoreau herbarium or reference to it in his *Journal*. George R. Proctor appears to be the first to collect this in Concord washed up on a gravelly north shore of Walden Pond on August 29, 1949 (NEBC specimen). On October 3, 1985 Bruce Sorrie collected two plants of this that washed up on the sand beach of the northeastern shore of Walden Pond (NEBC specimen). William Brumback collected this on October 17, 2001 in a cold pocket on the silty bottom in 25 feet of water at Walden Pond (BEDF specimen). Voucher specimen in NEBC collected by Eaton on September 22, 1957 in shallow water at a sandy shore of Thoreau's Cove "mostly up-rooted and floating on the edge of the beach" at Walden Pond. Link to image.

Isoëtes tuckermanii (GM: same; TH: not described scientifically until 1867)
TUCKERMAN'S QUILLWORT

Eaton lists this only in an appendix as rather unlikely in Concord. No specimen in Thoreau herbarium. Voucher specimen in NEBC collected by Bruce Sorrie at Walden Pond on October 3, 1985 washed up on the northern and northeastern shores with I. lacustris. Link to image.

**Lycopodiaceae** (GM8: same; TH: same (in part)) - Pratt does not list this family. The common species are included without comment in an addendum of three loose pages associated with his manuscript after his death.

Diphasiastrum digitatum (GM8: Lycopodium complanatum var. flabelliforme; TH: Lycopodium complanatum (in part))

## SOUTHERN RUNNING PINE

Hosmer says this is common, and would be including Diphasiastrum tristachyum. Eaton calls this common. Specimen in Thoreau herbarium without date or locality. There are about 13 references in Thoreau's *Journal* referring to this or to Diphasiastrum tristachyum. Edward Hoar collected this in Oak Meadow [now Mink Pond in the Estabrook Woods] in December 1857 (NEBC specimen). Voucher specimen in GH collected by William P. Rich in woods around Walden Pond on September 30, 1879. Link to image.

Diphasiastrum tristachyum (GM8: Lycopodium tristachyum; TH: not distinguished from Diphasiastrum digitatum in the manuals Thoreau used)

GROUND CEDAR

Hosmer says this is common, under the name that includes Diphasiastrum digitatum. Eaton calls this common. No specimen in Thoreau herbarium. There are about 13 references in Thoreau's *Journal* referring to this or to Diphasiastrum digitatum. Eaton collected this on October 30, 192i in dry, open, scrub oak woods southeast of Bateman's Pond (BEDF specimen). This author collected it on August 20, 1979 in a dry, sandy, open area in the vicinity of the Ruggerio waste area [south of Ministerial Swamp] (BEDF specimen). Voucher

specimen in NEBC collected by Charles Swan on July 24, 1890 with no locale within Concord given. Link to image.

Huperzia lucidula (GM8: Lycopodium lucidulum; TH: Lycopodium lucidulum) SHINING CLUBMOSS

Hosmer lists this without comment. Eaton says this is frequent, locally abundant. Specimen in Thoreau herbarium without date or locality. There are about 10 references to this species in Thoreau's *Journal*. Robert Bye collected this on May 7, 1972 in the Estabrook Woods abundant along Water Thrush Brook (BEDF specimen). Voucher specimen in NEBC collected by Eaton in wet woods along a sunny brook [Thoreau's Charles Miles Run] that was the outlet of Ledum Swamp at the Old Road to Nine-Acre-Corner on December 18, 1922. <u>Link</u> to image.

Lycopodiella alopecuroides (GM8: Lycopodium alopecuroides; TH: Lycopodium alopecuroides) FOXTAIL CLUBMOSS

Hosmer and Eaton do not list this. No specimen in Thoreau herbarium or reference to this in his *Journal*. According to Arthur Haines some of this species was mixed in with Eaton's collection of what Eaton lists as "Lycopodium inundatum var. robustum" [= Lycopodiella x robusta = Lycopodiella alopecuroides X Lycopodiella inundatum]. Eaton was the one who described the variety Lycopodium inundatum var. robustum in *Rhodora* 33: 202 (1931). He found it in peaty sand at the east end of Ministerial Swamp where he said competition from encroaching vegetation threatened its survival. Eaton's specimen of August 1, 1929 has been identified by Haines as L. alopecuroides rather than L. x robusta. Voucher specimen in GH collected by Eaton on August 1, 1929 in peaty sand in Ministerial Swamp, a patch 4 feet in diameter. Link to image.

Lycopodiella inundata (GM8: Lycopodium inundatum; TH: Lycopodium inundatum) BOG CLUBMOSS

Hosmer does not list this, but lists without comment the northern New England hybrid Diphasiastrum x sabinifolium, which bears some resemblance. Eaton says this is infrequent and often transient. No specimen in Thoreau herbarium. Thoreau in his *Journal* on Aug. 26, 1859 says he found it at "Hubbard's meadow-side, Drosera Flat" and on Aug. 28, 1860 as common at Harrington's mud-hole, Ministerial Swamp. These are the only two references to this species in Thoreau's *Journal*. This author found some of it west of the railroad tracks near the Sudbury town line in 1983. Cole Winstanley photographed a vigorous colony of this at a sandy, boggy pond off of Macone Farm Lane on Aug. 9, 2015. In October 2015 Cole Winstanley found some of this on the small island in Goose Pond. The specimen collected by Eaton on July 2, 1922 in a peaty thicket at the east end of Ministerial Swamp (and also found by him at the "Concord Country Club near brook") is missing. Voucher specimen in BEDF collected by Eaton on September 28, 1930 in sandy peat in Ministerial Swamp. Image not available.

Lycopodium clavatum (GM8: Lycopodium clavatum var. clavatum; TH: Lycopodium clavatum (in part))

#### STAGHORN CLUBMOSS

Hosmer says this is common. Eaton calls this occasional, but "very scarce in Concord" in his unpublished notes. Specimen in Thoreau herbarium without date or locality that is labeled as this species would be, according to Eaton, what is now known as Lycopodium lagopus. There are about five references to this or Lycopodium lagopus in Thoreau's *Journal*. Eaton collected this on August 17, 1957 in dry pine woods on the west side of Pine Hill, and on July 17, 1933 on a wooded slope near Spencer Brook (both BEDF specimens). Voucher specimen in

NEBC collected by Eaton on October 30, 1921 on a wooded north slope northeast of Angier's Mill Pond. Link to image.

Lycopodium hickeyi (GM8: not scientifically described until 1977, included in Lycopodium obscurum; TH: not scientifically described until 1977, included in Lycopodium dendroideum var. obscurum of his time)

### HICKEY'S CLUBMOSS

Not distinguished in the time of Thoreau, Pratt, Hosmer and Eaton. Two specimens in Thoreau herbarium without date or locality have been identified as this by Walter Kittredge. There are about 16 references in Thoreau's *Journal* (as Lycopodium dendroideum) to this or Lycopodium obscurum. See also discussion under Lycopodium obscurum. Three specimens in NEBC later identified as this have been collected in Concord including one by Eaton collected August 23, 1957 in the Estabrook Woods. Mary Walker collected this on June 22, 1977 at Goose Pond (BEDF specimen). Cole Winstanley collected this in the Estabrook Woods on October 27, 2015 and has found it also in a sinkhole at Brister's Hill. Voucher specimen (later identified as this) in NEBC collected by Edward Hoar in Oak Meadow [now Mink Pond in the Estabrook Woods] in December 1857. Link to image.

Lycopodium lagopus (GM8: Lycopodium clavatum var. megastachyon; TH: not distinguished from typical Lycopodium clavatum as a variety until 1910)

Eaton says this is rare. According to Eaton the undated specimen without locality in Thoreau's herbarium is this taxon. There are about five references to this or Lycopodium clavatum in Thoreau's *Journal*. Voucher specimen in NEBC collected by Edward Hoar in 1858. Link to image.

Lycopodium obscurum (GM8: Lycopodium obscurum var. obscurum; TH: Lycopodium dendroideum var. obscurum, Lycopodium dendroideum (in part))
TREE CLUBMOSS

Hosmer says this is common. Eaton calls it common. No specimen in Thoreau herbarium. There are about 16 references to this or what is now known as Lycopodium hickeyi in Thoreau's *Journal* under the name Lycopodium dendroideum. There are no records of Lycopodium dendroideum in the modern sense from Middlesex Co., MA. That species has a more western and northern distribution in New England. Thoreau's two specimens labeled by him as Lycopodium dendroideum have been identified as Lycopodium hickeyi by Walter Kittredge. Eaton collected this on October 30, 1921 in damp oak woods in the Curtis Woods south of Bateman's Pond (BEDF specimen). Robert Bye collected this on May 7, 1972 in young, secondary, mixed woods at a trail junction southeast of Mink Pond in the Estabrook Woods (BEDF specimen). Mary Walker collected this on June 22, 1977 at Goose Pond (BEDF specimen). Voucher specimen in GH is specimen #1 on a sheet of two specimens collected by Robert Silberglied on April 27, 1969 in deep-shaded coniferous woods in the Estabrook Woods. Link to image.

Lygodiaceae (GM8: Schizaeaceae; TH: Filices (in part))

Lygodium palmatum (GM8: same; TH: same)

CLIMBING FERN

Thoreau discovered this distinctive fern which is rare in eastern Massachusetts while surveying in Ministerial Swamp on Nov. 24, 1851. Pratt says it is rare and located in the southwest part of Concord [where Ministerial Swamp is located]. Hosmer simply notes that it is in Harrington Woods [where Ministerial Swamp is located]. Eaton never saw it in Concord though he searched the swamp repeatedly. He said it was last seen about 1920 by Wilfred

Wheeler who was gathering Sphagnum moss for a greenhouse. This led Eaton to speculate that the fern colony was probably destroyed by rubbish dumping near the sphagnum bog in Ministerial Swamp. Two specimens in Thoreau's herbarium are undated and without locality, but certainly from the only site in Concord where he knew it. There are about 20 references to this fern in Thoreau's *Journal*. All Concord references are to the same location. Using Thoreau's still-extant survey map of the swamp on which he marked the location of the fern this author rediscovered the fern in this swamp on Nov. 6, 1978 at the same location where Thoreau found it, alas, about two years too late to have had the great pleasure to inform the late Mr. Eaton of the find. For a republication of this author's account of the rediscovery see the *Arnoldia* 45(3): 24-26 (1985). This author later (1981) found two more small patches of this not far from the main colony. Voucher specimen in NEBC collected by Hosmer on August 6, 1899 in Ministerial Swamp in dense, low, shady woods among thick bushes. Link to image.

## **Marsileaceae** (GM8: same; TH: Hydropterides (in part))

MARSILEA QUADRIFOLIA (GM8: same; TH: not included in the manuals used by Thoreau) WATER CLOVER

Pratt does not list this. It is included without comment in an addendum of three loose pages associated with his manuscript after his death. Hosmer simply notes it as common. Eaton says it is abundant on Bateman's Pond but now scarce on the rivers possibly due to water pollution. No specimen in Thoreau herbarium or reference to it in his *Journal*. The book Walks and Rides in the Country Round About Boston published in 1898 claims on page 178 that Minot Pratt obtained specimens of this to put in the Concord River from the Cambridge Botanical Garden which were originally from Bantam Lake, CT. Emile Williams collected this on September 20, 1896 in the Concord River (NEBC specimen). Cyrus Darling collected this on July 17, 1937 in the Sudbury River (GH specimen). Eaton collected this on the exsiccated muddy pond shore of Bateman's Pond on September 21, 1957 (NEBC specimen), and on July 21, 1929 in the Sudbury River where common (BEDF specimen). William Countryman collected this on September 11, 1965 in .2 meters of water along the east shore of Bateman's Pond (VT, NHA specimens). This autyhor saw some of this floating here and there when canoeing on the Assabet and Concord Rivers in the late 1970s and early 1980s. Voucher specimen in NEBC collected by Edward Hoar in August 1879 in the Concord River where he notes "Introduced by Minot Pratt from Bot. [anic] Garden [formerly in Cambridge, Massachusetts] now fully established." Link to image.

## **Onocleaceae** (GM8: Polypodiaceae (in part); TH: Filices (in part))

Matteuccia struthiopteris (GM8: Pteretis pensylvanica; TH: Struthiopteris germanica) OSTRICH FERN

Pratt says it is rare, found on the turnpike to Lincoln and on the north road to Bedford. Hosmer mentions it only in Lincoln. Eaton claims it is rare with only a single colony in Concord (but see further below). No specimen in Thoreau herbarium. Thoreau mentions this fern only once in his *Journal*, on August 30, 1853, where he notes it as being behind the Trillium Woods. This author found it at several localities in Concord: in woods near Pratt's former residence (probably transplanted by him), at Conantum behind a residence (1978) and also by the side of a brook opposite public tennis courts near Martha's Point (Eaton's station), and in a hollow south of Punkatasset Hill not far from the Concord River (1980). In

Lincoln this author found it by the roadside along a stone wall west of the Codman Place (1979). This latter site could well be Hosmer's station. In January 2016 Cole Winstanley found some fertile fronds of a medium-sized population of this by the Assabet River next to the Barrett's Mill Farmland. On June 12, 2016 Cole Winstanley with Cherrie Corey confirmed the persistence of the ferns where Eaton collected it in 1958 in the vicinity of Martha's Point. On June 26, 2016 Cole Winstanley found some of this mixed in with the Deparia acrostichoides in Estabrook Woods. Voucher specimen in NEBC collected by Eaton on May 23, 1958 in rich, low opening in deciduous woods northwest of Martha's Point, a large colony about 30 meters in diameter where dominant. According to unpublished notes of Eaton this location is north of the old stone-wall running easterly toward the river, and separating the upland from the marsh land which is situated north (down-river) of Martha's Point. Link to image.

Onoclea sensibilis (GM8: same; TH: same)

SENSITIVE FERN

Pratt and Hosmer note this as common. Eaton says it is very common. No specimen in Thoreau herbarium of this common fern, but mentioned about 20 times in his *Journal*. Laurence Richardson collected this on July 23, 1961 by the Assabet River (BEDF specimen). Voucher specimen in GH collected by David Potter and C.M. Pomerat on July 20, 1930 at roadside of the Cambridge Turnpike. Link to image.

## **Ophioglossaceae** (GM8: same; TH: Filices (in part))

Botrychium dissectum (GM8: same; TH: Botrychium lunarioides var. dissectum + var. obliquum)

### **CUT-LEAVED GRAPE FERN**

Pratt says this (including Botrychium lunarioides var. obliquum) is rather common. Hosmer calls this (as Botrychium ternatum var. obliquum & var. dissectum) rather common. Eaton says it is uncommon. Three specimens in Thoreau herbarium on one sheet are undated and without locality. There are about 16 references to this in Thoreau's *Journal*. Eaton collected this on September 19, 1920 in a rocky hillside pasture on the east slope of Annursnack Hill (BEDF specimen). Voucher specimen in NEBC collected by Edward Hoar in August 1879 northwest of pond hole near S.[amuel] Hoar's Pond [Fairyland Pond in the Town Forest]. Link to image.

Botrychium matricariifolium (GM8: Botrychium matricariaefolium; TH: Botrychium lunarioides var. lunarioides)

#### DAISYLEAF GRAPE FERN

Pratt does not list this. Hosmer notes it at "Millrace" [Thoreau mill site in the Estabrook Woods]. Eaton says it is scarce. No specimen in Thoreau herbarium or reference to it in his *Journal*, so that it does not appear that Thoreau ever saw this in Concord. This author saw it in 1982 at what is appears to be the same site as Hosmer – along a stone wall south of the Thoreau mill site in the Estabrook Woods. Voucher specimen in NEBC collected by Eaton on June 11, 1932 in the Estabrook Woods in low, rich woods. Link to image.

Botrychium oneidense (GM8: Botrychium dissectum forma oneidense; TH: not scientifically described until 1901)

## ONEIDA GRAPE FERN

Eaton calls this rare. No specimen in Thoreau herbarium. Voucher specimen in GH collected by fern specialist, George E. Davenport, in October 1874 with no locale in Concord given. Link to image.

Botrychium virginianum (GM8: same; TH: Botrychium virginicum) RATTLESNAKE FERN

Pratt says this is rather rare. Hosmer calls it rather common. Eaton says it is scarce. Specimen in Thoreau herbarium is undated and without locality. There are only five references to this in Thoreau's *Journal* all at the same site. On July 10, 1857 he mentions Pratt finding this about a bass (Tilia americana) in Fever-bush Swamp. On July 13, 1857 he visits this site and renames the swamp "Rattlesnake Fern Swamp." On September 16, 1857 Thoreau begins to refer to it as Botrychium Swamp. From his reference to the swamp in his *Journal* on May 5, 1859 it is the same as or part of his Yellow Birch Swamp (see entry below for Betula alleghaniensis) which is in the Estabrook Woods. This author saw it at the north end of the long narrow swamp [Fox Castle Swamp]south of Bateman's Pond west of Hugh Carghill Road. This author also saw this near the Thoreau mill site in the Estabrook Woods and at other scattered locations. Marcia Cohen collected this on July 19, 1972 at the limestone quarries in the Estabrook Woods (BEDF specimen). On June 26, 2016 Cole Winstanley found this at the Estabrook House site. Voucher specimen in NEBC collected by Eaton on June 25, 1932 abundant in rich leaf mold on talus of Conantum Cliff [Conantum Cliffs, see this author's *Thoreau Place Names*]. Link to image.

Ophioglossum pusillum (GM8: Ophioglossum vulgatum var. pseudopodum; TH: Ophioglossum vulgatum (in part))

### NORTHERN ADDER'S TONGUE

Pratt notes this as rare. Hosmer does not list this. Eaton calls it very rare, claiming only a single other collection from Middlesex County, MA, but Dame and Collins (1888) note five Middlesex County townships (including Concord) where it has been found. No specimen in Thoreau herbarium or reference to it in his *Journal*. There is a specimen in NEBC collected by Warren H. Manning (1860-1938) collected on June 17 (no year) at a field meeting with no locale within Concord given. Voucher specimen in NEBC collected by Minot Pratt on August 25, 1872 with the comment "10 ½ o'clock. Eureka!!" In Pratt's copy of Gray's *Manual of Botany* he identifies the location as "Sullivan's Swamp, between larches & spruces." This swamp was most likely Owl Nest Swamp (now partly flooded to make a pond) near Farmer's Cliff. Link to image.

Osmundaceae (GM8: same; TH: Filices (in part))

Osmunda claytoniana (GM8: same; TH: same)

INTERRUPTED FERN

Pratt, Hosmer and Eaton all say this is common. Two specimens in Thoreau herbarium undated and without locality. There are about 18 references to this in Thoreau's *Journal*. Laurence Richardson collected this on June 7, 1961 along Strawberry Hill Road (BEDF specimen). Marcia Cohen collected this on July 19, 1972 along Estabrook Road in the Estabrook Woods (BEDF specimen). Voucher specimen in NEBC collected by Eaton on August 17, 1957 at the edge of a wood road. Link to image.

Osmunda regalis var. spectabilis (GM8: same; TH: same)

Pratt, Hosmer and Eaton all say this is common. Two specimens in Thoreau herbarium without date or locality. There are more than 24 references to this in Thoreau's *Journal*. Laurence Richardson collected this on June 15, 1961 along Barrett's Mill Road (BEDF specimen). Voucher specimen in NEBC collected by Edward Hoar on August 31, 1857 on the shore of the Assabet River. Link to image.

Osmundastrum cinnamomeum (GM8: Osmunda cinnamomea; TH: Osmunda cinnamomea)

Pratt and Hosmer say this as common. Eaton calls it abundant. Specimen in Thoreau herbarium undated and without locality. There are almost 40 references to it in Thoreau's *Journal*. Voucher specimen in NEBC collected by Walter Deane on July 7, 1886 in woods. Link to image.

# **Polypodiaceae** (GM8: same (in part); TH: Filices (in part))

Polypodium appalachianum (GM8: undescribed until 1991; TH: undescribed until 1991) APPALACHIAN POLYPODY

This was not known to science until recent times. No specimen in Thoreau herbarium. Cole Winstanley found a single large plant of this with over 20 fronds on a north-facing rock outcrop off a trail that leads to Westford Road just southwest of Spencer Brook on Aug. 28, 2015. In December 2015 he also found at least two plants of this on a small quartz and feldspar erratic in the central eastern part of Estabrook Woods. Vouchers are Winstanley's photos until more is found and a collection made. See Appendix G for photograph.

Polypodium virginianum (GM8: same; TH: Polypodium vulgare)

**COMMON POLYPODY** 

Pratt notes this as on rocks everywhere. Hosmer says it is common (in Concord vicinity). Eaton calls it not common, but frequent in the Estabrook Woods, being abundant east of Bateman's Pond. Specimen in Thoreau herbarium is without date or locality. There are about 26 references to it in Thoreau's *Journal*. Laurence Richardson collected this on April 9, 1961 on the north side of Annursnack Hill (BEDF specimen). Marcia Cohen collected this on July 19, 1972 at the lime quarries in the Estabrook Woods (BEDF specimen). Voucher specimen in NEBC collected by Eaton on August 8, 1957 in rocky woods at Conantum Cliff [Conantum Cliffs, see this author's *Thoreau Place Names*]. Link to image.

## **Pteridaceae** (GM8: Polypodiaceae (in part); TH: Filices (in part))

Adiantum pedatum (GM8: same; TH: same)

COMMON MAIDENHAIR FERN

Pratt says this is rather rare. Hosmer calls it rather common [in the Concord vicinity]. Eaton says simply that there are four scattered stations [Estabrook Woods, Walden Woods, Annursnack Hill and Conantum from his unpublished notes]. Specimen in Thoreau herbarium is without date or locality. There are about 10 references to this in Thoreau's *Journal.* On a date between September 6 and 9, 1850 he notes it in a swampy grove at Conantum, a site he elsewhere calls Miles Swamp or Cohush Swamp. The references on May 30, 1852, May 26, 1853, June 13, 1853, August 3, 1853, May 16, 1854, and October 4, 1859 are all likely to be at this location. His reference on October 15, 1859 might be to an occurrence in the Estabrook Woods. Grace Gilbert collected this on June 24, 1894 at the riverbank [Sudbury River] of Hubbard's Woods (GH specimen). Laurence Richardson collected this on July 4, 1961 at Annursnack Hill (BEDF specimen). This author saw it in a swampy grove behind the former residence of Esther Anderson at 262 Garfield Road on Conantum, near the tip of a peninsula in a swamp in the Estabrook Woods in the vicinity of the Estabrok Road (reconfirmed there by Cole Winstanley in December 2015) and at the Hepatica site sink-hole in the easternmost part of the Town Forest in woods north of Route 2 and west of Sandy Pond Road. On September 13, 2015 Cole Winstanley found a colony of

this on a slope toward a seep between two rises in woods west of White Pond near the Sudbury line and west of the railroad tracks. In October 2015 Cole Winstanley saw a small colony of this in pine woods near the Old Road to Nine-Acre Corner north of Jenny Dugan Brook opposite the Concord Country Club. On June 26, 2016 Cole Winstanley found two well-separated clumps of this in the swamp in the vicinity where this authgor found it in the Estabrook Woods. Voucher specimen in NEBC collected by Eaton on October 6, 1957, a large patch on a steep north[-facing] slope in woods of his "Ministerial Wood-lot" [the Hepatica site in the Town Forest]. Link to image.

**Selaginellaceae** (GM8: same; TH: Lycopodiaceae (in part)) - This family not listed by Pratt or Hosmer.

Selaginella apoda (GM8: same; TH: Selaginella apus) MEADOW SPIKEMOSS

Eaton says this is occasional. Specimens in Thoreau herbarium without date or locality. There are just two references to this in Thoreau's *Journal*. On March 26, 1855 he asks whether a moss-like plant he sees at Cheney's shore is this. On April 18, 1856 he notes finding it abundant at a sandy place where he moors his boat near Lee's Cliff and also says that it is on the Conantum shore near elms thirty or forty rods below. Emile F. Williams collected this on October 24, 1897 at Annursnack Hill (GH specimen). Eaton collected this on July 10, 1958 in leaf-mold, on soil exposed by a fallen tree, about 100 meters south of Martha's Point (NEBC specimen). This author collected it with James Hinds and Sarah Chapin on March 20, 1983 on the edge of a low, mossy thicket along a brook and pasture off the west side of Monument Street south of Saw Mill Brook (BEDF specimen). Voucher specimen in NEBC collected by Edward Hoar in August 1879 on a log among tussocks at the foot of Conantum Cliff [Hoar's name for Martha's Point]. Link to image.

Selaginella rupestris (GM8: same; TH: same)

### ROCK SPIKEMOSS

Eaton says this is rare. Specimen in Thoreau herbarium is without date or locality. There are just two references to this in Thoreau's *Journal*. One is on August 3, 1856 where he notes finding this at Bittern Cliff [Martha's Point]. The other is on October 26, 1855 where he mentions a little grayish-green and rigid moss-like plant on top of Lee's Cliff and asks whether it is this species. The first time this author saw it was in 1981. Upon reading Thoreau's *Journal* entry for August 3, 1856 while at home in Concord this author immediately bicycled out to Martha's Point and found it there very quickly. In 1982 it was shown to this author by Paul Martin Brown on a rock outcrop near the house at 385 Garfield Road on Conantum. Thoreau's herbarium specimen is the voucher for this (upper specimen on sheet). Link to image.

**Thelypteridaceae** (GM8: Polypodiaceae (in part); TH: Filices (in part))

Phegopteris connectilis (GM8: Dryopteris phegopteris; TH: Polypodium phegopteris) LONG BEECH FERN

This is a perfect example of how a distinctive, native species can for many years, within the bounds of a township, elude some avid botanists, but not others. Pratt says this (as Phegopteris polypodioides) is common. Hosmer notes this (as Phegopteris polypodioides) only at Pratt's Swamp. Eaton says this is rare and includes it in his list of rare species with present status unknown. No specimen in Thoreau herbarium or reference to it in his *Journal*.

This author found it in a good number of places, in agreement with Pratt. Some of the places where this author saw it were on the east side of Annursnack Hill (a thriving colony near a spring, 1980), most abundant on the east face of Poplar Hill (1981), near the Thoreau mill site in the Estabrook Woods (1980), north of the swamp that is just to the east of Hubbard Hill in the Estabrook Woods (1981), east of Bateman's Pond in the Estabrook Woods (1981), south of a ridge hill along Williams Road (1981), and at Pratt's Spring (1982, possibly transplanted there by Pratt). On June 26, 2016 Cole Winstanley found a small population of this on the side of the trail on the northern side of Punkatasset Hill. Voucher specimen in NEBC collected by Hosmer with no date or specific locale in Concord. Link to image.

Phegopteris hexagonoptera (GM8: Dryopteris hexagonoptera; TH: Polypodium hexagonopterum) BROAD BEECH FERN

Pratt says this is common. Hosmer says it occurs at Pratt's Swamp and at Ripley Hill [possibly mistaking Phegopteris connectilis for this]. Eaton says it is rare with present status unknown. A specimen in Thoreau's herbarium from Brattleboro, VT in 1856 labeled as Dryopteris with a question mark has been identified as Phegopteris hexagonoptera by Walter Kittredge in 2006. There are no references to this in Thoreau's *Journal*. Voucher specimen in NEBC collected by Hosmer with no date or specific locale in Concord. Link to image.

Thelypteris noveboracensis (GM8: Dryopteris noveboracensis; TH: Aspidium noveboracense) NEW YORK FERN

Pratt, Hosmer and Eaton say this is common. Three specimens in Thoreau herbarium are without date or locality. There are only three references to this in Thoreau's *Journal*. Voucher specimen in NEBC collected by Eaton on June 16, 1957 in low ground behind Angier's Mill. Link to image.

Thelypteris palustris var. pubescens (GM8: Dryopteris thelypteris var. pubescens; TH: Aspidium thelypteris)

MARSH FERN

Pratt, Hosmer and Eaton say this is common. Specimen in Thoreau herbarium without date or locality. There are only 4 references to this in Thoreau's *Journal*. Eaton collected this on August 15, 1930 in a moist, grassy hollow among bushes on his wood-lot near Goose Pond (BEDF specimen). Voucher specimen in NEBC collected by Arthur Seymour on September 20, 1912. Link to image.

Thelypteris simulata (GM8: Dryopteris simulata; TH: not scientifically described until 1894) MASSACHUSETTS FERN

Hosmer does not list it. Eaton says this is uncommon. No specimen in Thoreau's herbarium. Fred C. Floyd collected this on August 17, 1902 in low, shady woods at Sweetwater Spring off Second Division Road (NEBC specimen). Laurence Richardson collected this on August 12, 1961 at or near Second Division [Brook], possibly the same station where Floyd collected it (BEDF specimen). This author saw it on the borders of a seasonal brook northwest of Pinxter Brook in 1980 and in a hemlock hollow north of White Pond bog in 1981. Voucher specimen in NEBC collected by Eaton on September 15, 1928 on a steep, wooded, north [facing] slope near Goose Pond. Link to image.

**Woodsiaceae** (GM8: Polypodiaceae (in part); TH: Filices (in part))

Cystopteris tenuis (GM8: Cystopteris fragilis var. mackayii; TH: Cystopteris fragilis) MACKAY'S FRAGILE FERN

Pratt and Hosmer say this was common. Eaton says it is scarce. No specimen in Thoreau herbarium. Thoreau mentions it only once in his *Journal* on October 19, 1859-- at Lee's

Cliff. However, the specimen he collected on that day labeled as this species is actually Woodsia obtusa (see entry for that species). Eaton collected this on June 25, 1932 on a ledge at Conantum Cliff [Conantum Cliffs, see this author's *Thoreau Place Names*], and on June 10, 1956 in rocky crevices and lime gravel along Estabrook Road (BEDF specimens). This author saw it at Lee's Cliff on July 8, 1979, at the Thoreau mill site in the Estabrook Woods on May 24, 1980, and at the Lime Quarries in the Estabrook Woods on July 11, 1980. Cherrie Corey reported seeing this in May 2016 growing out from between rocks in foundations still standing against the hillside at Ball's Hill. Voucher specimen in NEBC collected by Eaton on May 30, 1956 at the rocky edge of a lime quarry in Estabrook Woods where abundant. Link to image.

Gymnocarpium dryopteris (GM8: Dryopteris disjuncta - misapplied; TH: Polypodium dryopteris)
OAK FERN

Pratt says this is rare and found in the cemetery, presumably Sleepy Hollow Cemetery. Hosmer simply notes this (as Phegopteris dryopteris) at the Cemetery, Harrington Woods and Turnpike. Eaton says it is rare in eastern Massachusetts. In Thoreau's *Journal* on May 13, 1860 he questions whether he has found this at Lee's Cliff. A specimen in his herbarium that he collected in Brattleboro, VT in 1856 he tentatively identified as this species with a question mark. In 2006 Walter Kittredge identified this specimen as Phegopteris hexagonoptera. Thus, there is no evidence that Thoreau saw this in Concord. The *Flora of Middlesex County, Massachusetts* (Dame & Collins, 1888) says it is very rare in Middlesex County and gives only two localities, neither of them Concord. Voucher specimen in NEBC collected by George Kennedy on May 26, 1913 on a wooded bank with northwest exposure, but without specific locale in Concord. Link to image.

Woodsia ilvensis (GM8: same; TH: same)

**RUSTY WOODSIA** 

Pratt says this is rare and notes it only at the cliffs at Bateman's Pond. Hosmer lists this but makes no comment. Eaton says it is rare, not seen in recent years. Specimen in Thoreau's herbarium from Concord collected at Bateman's Pond on September 4, 1857. In his *Journal* on September 4, 1857 Thoreau mentions finding this on the sides of what he calls Cornus florida Ravine at Bateman's Pond. On Sept. 12, 1858 he mentions finding it under the cave at the Cliffs (at Fair Haven Cliffs, since he mentions yew berries that he found near these cliffs). On April 14, 1860 he thinks he might have found some at Lee's Cliff, but is unsure. Voucher specimen in GH is Thoreau's specimen collected on September 4, 1857 as noted above (specimens on lower part of sheet). Link to image.

Woodsia obtusa subsp. obtusa (GM8: same; TH: same)

BLUNT-LOBED WOODSIA

Pratt says it is rather common about ledges in Concord. Hosmer lists it without comment. Eaton says it is rare in Concord. Oddly there is no reference to this fern in Thoreau's *Journal*, but there are two specimens of it in his herbarium. One of them (in NEBC) is labeled "Cystopteris fragilis (!)" and was collected from Lee's Cliff on October 19, 1859 – noted in his *Journal* on that date. The other is undated without locality and identified only in a hand that is not Thoreau's. Eaton collected this on October 30, 1921 in a rock crevice at the edge of a lime pit in the Estabrook Woods, and on June 25, 1960 in a niche in the dioritic cliff at Martha's Point [a photo of him at this spot on the dust jacket flap of his *A Flora of Concord*] (both NEBC specimens). This author saw it at Martha's Point and at the Conantum Cliffs. Voucher specimen in NEBC collected by Thoreau on October 19, 1959 as noted above. <u>Link</u> to image.

**GYMNOSPERMS** (3 families; 7 genera; 14 species) [4 alien species; 10 species in this flora recognized or collected by Thoreau in Concord; 10 species in this flora listed by Pratt from Concord excluding his introductions; 11 species in this flora listed or collected by Hosmer from Concord]:

**Cupressaceae** (GM8: Pinaceae (in part); TH: Coniferae (in part)) Chamaecyparis thyoides (GM8: same; TH: Cupressus thyoides)

ATLANTIC WHITE CEDAR

Pratt says this is rare, found only in a swamp north of Angier's Mill. Hosmer calls this rather common, but, since his notebooks include surrounding towns, he probably refers to the significant populations of this in Bedford and Sudbury. Eaton says it is rare, not recently observed, and includes it in his list of extirpated species, claiming the last three or four trees were cut down sometime after 1920. Specimen in Thoreau herbarium without date or locality. There are about 29 references to it in Thoreau's Journal with all Concord occurrences at the same locale. In his introductory material Eaton notes its disappearance at the only stations he knew about: 1) a swamp west of Strawberry Hill Road overgrown by red maple; 2) a small colony on the west shore of Barrett's Mill Pond (Angier's) cut down about 1940 (NEBC specimen collected on October 30, 1921). However, this author saw small amounts of it in several places - a few trees in a swamp off Monument Street on the west side about two tenths of a mile beyond Ball's Hill Road (four or more trees reconfirmed here in 2015 by Cole Winstanley), in swampy woods just south of Route 2 between Emerson Hospital and Sudbury Road (NEBC and BEDF specimens collected with James Hinds on September 20, 1981), in a small sphagnum bog on the property of the former residence of Pennie Logemann (adjacent to Kalmia Swamp), and numerous seedlings on the west shore of Annursnack Hill Pond. The latter are close to the site where Thoreau described it to be and are likely remnants of that population. Voucher in NEBC collected by Edward Hoar on August 26, 1858 from "G.[eorge] M. Barrett's swamp." [Thoreau's location] Link to image.

Juniperus communis var. depressa (GM8: same; TH: Juniperus communis (in part), Juniperus repens)

## GROUND JUNIPER

Though formerly common, this species is becoming uncommon or scarce due to continued reforestation and development since it needs open habitat. Pratt says this is common in old pastures and reports a fine one on Punkatasset Hill covering about four square rods and a larger one on Fairhaven Hill. Hosmer and Eaton call it common. Specimen in Thoreau herbarium without date or locality. There are about 39 references to this in Thoreau's *Journal*. Laurence Richardson collected this on July 4, 1961 at Annursnack Hill (BEDF specimen). Colleen Handel collected this on July 19, 1972 at the lime quarries in the Estabrook Woods (BEDF specimen). Voucher in NEBC collected by Eaton on August 19, 1935 at a wood road in the Town Forest where he reports it to be scarce. Link to image. Juniperus virginiana var. virginiana (GM8: same; TH: same)

## EATERN RED CEDAR

Pratt, Hosmer and Eaton say this is common. Specimen in Thoreau herbarium without date or locality. There are about 63 references to this in Thoreau's *Journal*. Jarvis notes this on the hill over Boston Road. Eaton collected this on June 22, 1935 at the edge of woods at the Town Forest (NEBC specimen). Laurence E. Richardson collected this on a hillside north of J. Macone Pond west of Strawberry Hill Road on May 7, 1972 (VT specimen). Colleen Handel collected this on August 29, 1972 in the Estabrook Woods near Hutchin's Pond (BEDF

specimen). This author collected it on April 27, 1978 at Punkatasset Hill [possibly the same station as Handel's collection] (BEDF specimen). Voucher in NEBC collected by Edward Hoar on April 24 & May 19, 1858 with no locale within Concord given. Link to image.

**Pinaceae** (GM8: Pinaceae (in part); TH: Coniferae (in part))

LARIX DECIDUA (GM8: same; TH: Larix europaea)

**EUROPEAN LARCH** 

Pratt mentions this (as Larix communis) as introduced as an ornamental tree. Hosmer does not list it. Eaton says it occasionally escapes from cultivation. No specimen Thoreau herbarium. There are about 4 references to this (as Scotch Larch) in Thoreau's *Journal*, but none of his references indicate wild occurrence. Voucher in NEBC collected by Eaton on June 22, 1935 in low ground in the "Plantation" in the Town Forest where it was introduced and "sparingly spontaneously." Link to image.

Larix laricina (GM8: same; TH: Larix americana)

**TAMARACK** 

Pratt says it is in many swamps and notes its occurrence northeast of Sleepy Hollow Cemetery [Moore's Swamp]. Hosmer says it is rather common (in the Concord vicinity). Eaton says it is scarce and local, noting in his introduction that it is at White Pond Bog, Kalmia Swamp, Gowing's Swamp, and Heywood's Meadow (just south of Walden Pond). Specimen in Thoreau herbarium without date or locality. There are about 99 references it in Thoreau's Journal. Jarvis notes this on June 12, 1835 in the swamp between Caesar's and burial hill [Moore's Swamp]. Laurence Richardson collected this on August 15, 1961 at Bull's Bog [Gowing's Swamp] (BEDF specimen). This author saw it at all of the places Eaton saw it except at White Pond Bog where it was gone, but also at the bog in the Ministerial Swamp (west end) where Eaton collected it, and in what this author calls the Nuclear Metals Bog [Tarbell's Swamp] in the western corner of the town. Voucher specimen in NEBC collected by Eaton on July 2, 1922 at a pond margin in the Ministerial Swamp. Link to image.

PICEA ABIES (GM8: same; TH: Abies excelsa)

**NORWAY SPRUCE** 

Pratt says this is extensively introduced as a shade tree. Hosmer does not list it. Eaton says it is occasionally spontaneous near plantations as in the Town Forest. No specimen in Thoreau herbarium. Thoreau's single mention of it in his *Journal* is only as an ornamental. Eaton collected this on September 22, 1961 at brookside, in open woods, far from habitation at Second Division Brook (BEDF specimen). Voucher specimen in NEBC collected by Eaton on June 22, 1935 in low ground in the "Plantation" in the Town Forest, where introduced with occasional spontaneous seedlings. <u>Link to image</u>.

Picea mariana (GM8: same; TH: Abies nigra (in part))

**BLACK SRUCE** 

Pratt says this is rare and adds that he had noticed only a few trees standing on the borders of a small swamp north of Punkatasset [Hill], but Pratt also calls "Abies alba" (the modern Picea glauca) as common in swamps. Since Picea glauca is native in New England only in the northern states, it is evident that Pratt refers here also to Picea mariana. Hosmer calls this (as Picea nigra) rather common, but since his notes include surrounding towns, it is difficult to know how much he found in Concord. Eaton says this is scarce. Specimen in Thoreau herbarium collected on May 25, 1857 from Kalmia Swamp, and an undated specimen "of Hill" [Nashawtuc Hill]. In his *Journal* on June 10, 1855 he refers to collecting this on June 2,

1855, on which date his *Journal* notes it beyond this hill. No other botanists have found it near this hill. There are about 43 references specifically to this in Thoreau's *Journal*, but all the many references simply to "spruce" in Concord would be to this. Jarvis collected this on June 11, 1835 in Cesar's Woods (MASS specimen). In the section on sphagnum bogs Eaton's *A Flora of Concord* he lists this as found at White Pond Bog, Ledum Swamp and Gowing's Swamp. It is no longer at the first two of these bogs. This author saw it at Gowing's Swamp (and collected there on May 31, 1978 - BEDF specimen), a small bog near the halfway point along the length of Ministerial Swamp (reconfirmed there in 2015 by Cole Winstanley -- an old tree and three or four saplings), another Ministerial Swamp station in the eastern part, a swamp near Annursnack Hill, Martial Miles Swamp, a swamp next to Kalmia Swamp, and in at least one or two other swamps. In August 2015 Cole Winstanley found perhaps 70 or more trees, many of them fruiting, in a boggy swamp south of Laws Brook Road across from the western end of Warner's Pond. Voucher specimen in NEBC collected by Eaton on December 18, 1921 in the bog called Ledum Swamp [now free of this spruce andmostly ruined] near the Old Road to Nine-Acre-Corner. Link to image.

PICEA RUBENS (GM8: same; TH: not scientifically described until 1898, but indicated as an unnamed variety of Abies nigra [Picea mariana] in Gray's Manual of Botany 2<sup>nd</sup> ed. (1856)) RED SPRUCE

Pratt or Hosmer do not (and could not have) listed this. Eaton does not list this. No specimen in Thoreau herbarium and no indication of this species from Concord in Thoreau's *Journal*. Merritt L. Fernald and Henry K. Svenson collected this along a roadside on September 26, 1928 (GH specimen). Since the circumstances of this 1928 collection are unclear, and this species is not known to be a roadside species in eastern Massachusetts, Eaton apparently decided to omit it from his *Flora*. This author collected it with cones from a small colony with numerous trees up to 8m tall in swampy woods south of the junction of the Acton town line and the Boston & Maine (Fitchburg line) railroad tracks. The proximity of this colony to the railroad suggests that it was introduced inadvertently via the railroad. Concord is just a little southeast its known native range. In December of 2015 Cole Winstanley found this colony to consist of hundreds of trees of varying ages spread out over about a half mile length of the swamp there. He also reports finding a small colony of this at the edge of the black spruce swamp south of Laws Brook Road in December 2015. Voucher in NEBC collected by this author on May 5, 1983 at the location described above. Link to image.

Pinus resinosa (GM8: same; TH: same)

### **RED PINE**

Pratt says this is rare, noting a few trees on the southeast side of Merriam's Hill [Pine Hill adjacent to Virginia Road on north side], also on land of John Barrett near the Brick Schoolhouse, and a single tree in the pasture of Brooks Bigelow north of Punkatasset [Hill]. Hosmer notes it only at Punkatasset [Hill]. Eaton notes two indigenous stations. He says that an indigenous small grove of mature trees formerly stood on a gravel ridge opposite Sleepy Hollow Cemetery near Bedford Road and was gradually destroyed by under-mining for gravel. He also speculates that a second station at Merriam's Hill [Pine Hill] was possibly cut down to improve pasturage. He lists it as an extirpated species, but says that many introduced plantings, as at that Town Forest, frequently reproduce spontaneously. No specimen in Thoreau's herbarium. There are about 11 references to this in Thoreau's Journal. On February 27, 1851 he notes the Merriam's Hill site: "Saw to-day on Pine Hill behind Mr. Joseph Merriam's house a Norway pine, the first I have seen in Concord." Voucher in NEBC collected by M.L. Fernald and H.K. Svenson on September 26, 1928 on "gravelly ridge." Link to image.

Pinus rigida (GM8: same; TH: same)

PITCH PINE

Pratt, Hosmer and Eaton say this is common. Specimen in Thoreau herbarium without date or locality. There are about 400 references to this in Thoreau's *Journal*. Edward Hoar collected this on a rocky hillside at Oak Meadow [now Mink Pond in the Estabrook Woods] on August 8, 1857 (NEBC specimen). Eaton collected this on May 18, 1935 on dry banks and sterile woods in the Town Forest, noting 2-3 very large trees near Walden Street (NEBC specimen). In the late 1970s and early 1980s this author found this most frequently in the general vicinity of Walden Pond and Second Division Brook, but elsewhere too. Voucher in NEBC collected by Walter Deane on June 5, 1892 in a pine wood by the Sudbury River. Link to image.

Pinus strobus (GM8: same; TH: same)

EASTERN WHITE PINE

Pratt, Hosmer and Eaton say this is common. No specimen in Thoreau herbarium. There are about 420 references to this in Thoreau's *Journal*. Pratt mentions that as of 1877 there were some magnificent trees of this pine near the Concord River "a little below Ball's Hill, more than a hundred feet high, straight as a ship's mast." This was and is the most common pine in Concord. Voucher in NEBC collected Eaton on May 18, 1935 in the Town Forest in moist or low woods, noting it was abundant in some areas. <u>Link to image</u>.

PINUS SYLVESTRIS var. SYLVESTRIS (GM8: same; TH: same) SCOTCH PINE

Pratt says he introduced this and notes a plantation of about 300 young trees on the west side of Punkatasset Hill planted in 1873. Hosmer does not list it. Eaton says it is a frequent escape from cultivation. In unpublished notes he refers to adventive seedlings of this at Nashawtuc Hill. No specimen in Thoreau herbarium. There are two references to this in Thoreau's *Journal*, but not to any occurrence in Concord. Voucher specimen in NEBC collected by Eaton on August 25, 1969, noted in more detail in his unpublished notes as "Spontaneous in thicket and adjacent fallow field, off Barrett's Mill Road, where frequent as seedlings and saplings." Link to image.

Tsuga canadensis (GM8: same; TH: Abies canadensis)

EASTERN HEMLOCK

Pratt says this is not abundant but distributed throughout the town. Hosmer calls it common in the Concord vicinity. Eaton says it is frequent and notes a meager remnant of a remarkable stand of ancient trees along the Assabet River under Nashawtuc Hill. These were long known as the Leaning Hemlocks. Specimens in Thoreau herbarium without date or locality. There are about 175 references in Thoreau's *Journal* to this tree. Jarvis notes this on June 9, 1835 at 9 Acre Corner beyond bridge; near J. Hosmer. Voucher specimen in NEBC collected by Eaton on May 18, 1935 from the Town Forest a steep north[-facing] slope northeast of the pond [Fairyland Pond] in a small grove of large trees and many seedlings. Link to image.

**Taxaceae** (GM8: same; TH: Coniferae (in part))

Taxus canadensis (GM8: same; TH: same, Taxus baccata var. canadensis)

AMERICAN YEW

Pratt lists this without comment. Hosmer only notes Stow Swamp for this which is not in Concord. Eaton says this is rare in eastern Massachusetts. Specimen in Thoreau herbarium from Fair Haven Hill noted by Thoreau collected in 1857 [incorrectly since he discovered it there in 1858]. There are about 23 references to this in Thoreau's *Journal*. He uses in one

instance the made-up name "Taxus Americana," simply translating the common name American Yew. On March 18, 1858 he records his discovery of this on Fair Haven Hill. Eaton collected this on June 1, 1958 west of Old Marlborough Road on a wooded knoll on an east-facing slope beyond his station for Viburnum trilobum [V. opulus var. americanum], above left bank of the east branch of Second Division Brook near the Sudbury line, a single colony 4 meters by 2 meters (NEBC specimen). This author found it on the west side of Fair Haven Hill in 1980, the vicinity where Thoreau found it. Oddly, Cole Winstanley reported this as frequent as of May 2016 along streams in woods and along roadsides, for example, along Sudbury Road north of Rte. 2 south of the railroad tracks. Voucher specimen in NEBC collected by Eaton on April 15, 1957 in Brewster's Woods on a steep wooded north-facing bank overlooking Stedman Buttrick's duck pond. Link to image.

**MONOCOTS** (24 families; 119 genera; 359 species) [69 alien species; 208 species in this flora recognized or collected by Thoreau in Concord; 46 species in this flora listed by Pratt from Concord excluding his introductions; 65 species in this flora listed or collected by Hosmer from Concord]:

**Acoraceae** (GM8: Araceae (in part); TH: Araceae (in part)) ACORUS CALAMUS (GM8: same; TH: same)

**SWEET FLAG** 

Pratt says this is common on the borders of rivers. Hosmer lists it as common. Eaton says this was formerly common, but now apparently scarce owing perhaps to water pollution. Specimen in Thoreau herbarium without date or locality. However, Walter Kittredge identifies one of the specimens on Thoreau's herbarium sheet as the less common native species, Acorus americanus, rather than the more common Acorus calamus introduced by the early European settlers. Thoreau refers to this (or possibly Acorus americanus) about 30 times in his *Journal*. This author saw it at Clamshell Hill (1982) and Nashawtuc Rd. (1983). Voucher specimen in NEBC collected by Eaton on June 3, 1922 in a wet meadow at the Concord Country Club. Link to image.

**Alismataceae** (GM8: same; TH: Alismaceae (in part))

Alisma subcordatum (GM8: same; TH: Alisma plantago (in part))

SOUTHERN WATER-PLANTAIN

Not distinguished from Alisma triviale in the manuals used by Thoreau, and the two also not distinguished by Pratt and Hosmer. Pratt and Hosmer simply give habitat for this including Alisma triviale. Eaton says this is common, but "probably common" in his unpublished notes. Specimen in Thoreau herbarium (probably this species) is without date or locality. There are about 8 references in Thoreau's *Journal* to this or Alisma triviale, most likely to Alisma subcordatum. Eaton collected this on July 29, 1920 in Wheeler's Meadow along the Sudbury River east of Nashawtuc Hill (BEDF specimen). Laurence E. Richardson collected this on August 24, 1968 at Spencer Brook (BEDF specimen). Voucher specimen in NEBC collected by Edward Hoar on August 10, 1857 in a wet ditch at the foot of his garden [near the Sudbury River]. Link to image.

Alisma triviale (GM8: same; TH: Alisma plantago (in part)) NORTHERN WATER-PLANTAIN

As noted above, this was not distinguished by Thoreau, Pratt or Hosmer from the preceding species. Pratt and Hosmer simply give habitat for this including Alisma subcordatum. Eaton says this is uncommon, but in unpublished notes he calls it scarce. Specimen in Thoreau herbarium (which might be this species, but is probably Alisma subcordatum) is without date or locality. There are about 8 references in Thoreau's *Journal* to this or Alisma subcordatum, most likely Alisma subcordatum. Voucher specimen in NEBC collected by John Brainerd on August 2, 1950 at Great Meadows. Link to image.

Sagittaria filiformis (GM8: Sagittaria subulata var. gracillima; TH: not scientifically described until 1890)

Hosmer notes this (as S. natans var. gracillima) simply in "River." Eaton notes it was collected in the Assabet River in 1967 by Laurence E. Richardson where it was abundant (August 7, 1967 specimen in NEBC). No specimen in Thoreau herbarium. This author collected this in the Assabet River in July 1981 (VT specimen). Eastern Massachusetts is the northern limit of the range of this species. Voucher specimen in NEBC collected by B.R. Joyce on July 18, 1882 from "Concord River at Concord junction" [actually this is the Assabet River at West Concord] from the herbarium of Edward Hoar. Link to image.

Sagittaria graminea subsp. graminea (GM8: same; TH: Sagittaria simplex)

Pratt says it is rare, found near One-arched Bridge and also at 9-acre Corner Bridge. Hosmer does not list it. Eaton says it is abundant at a few stations. Three specimens in Thoreau herbarium all collected on September 1, 1857 without locality. Thoreau's only *Journal* reference is on this date when he mentions seeing it at Baker's shore on Fair Haven Pond which is in Lincoln. Eaton collected this on August 7, 1920 in Wheeler's Meadow along the Sudbury River east of Nashawtuc Hill (BEDF specimen). Voucher specimen in NEBC collected by Eaton July 17, 1922 at Goose Pond near Eaton's wood lot. <u>Link to image</u>.

Sagittaria latifolia (GM8: same, including var. obtusa; TH: Sagittaria variabilis, Sagittaria sagittifolia)

Pratt, Hosmer and Eaton say this is common. Two specimens in Thoreau herbarium without date or locality. There is only one reference to this in Thoreau's *Journal*. Jarvis collected this on August 4, 1834 at side of mill dam (MASS specimen). Edward Hoar collected this in 1857 and 1858, but his locality "Concord River" is not specific to township. Walter Deane collected this on July 25, 1893 on the banks of the Concord River in Concord, MA (NEBC specimens). Eaton collected this on August 1, 1957 in a swampy meadow north of Martha's Point (BEDF specimen). Voucher specimen in NEBC collected by Eaton on August 2, 1930 at Goose Pond. Link to image.

**Amaryllidaceae** (GM8: same (in part) + Liliaceae (in part); TH: same (in part) + Liliaceae (in part))

Allium canadense var. canadense (GM8: same; TH: same) WILD GARLIC

Pratt notes this only on the southeast slope of Punkatasset Hill near the river and also on swampy land bordering Hayward's Sawmill brook. Hosmer says it is common [in the Concord vicinity]. Eaton calls it frequent. Specimen in Thoreau herbarium without date or locality. There are about 10 references to this in Thoreau's *Journal*. In his *Journal* he notes finding it in Tarbell Meadow (June 14, 1853), at the Punkatasset Hill station (with Pratt on June 7, 1857) that is mentioned by Pratt and Jarvis (see below), and E. Hosmer's meadow (June 26,

1857). There are a few unspecific references in the vicinity of the Assabet River, likely referring to the E. Hosmer location. The relatively sparse references by Thoreau suggest that in the time of Thoreau and Pratt it was merely occasional and perhaps became more common in the time of Hosmer and Eaton. Jarvis notes this on July 4, 1834 at "Barret's" which would be Nathaniel Barrett's on the southeast side of Punkatasset Hill and referring to land from there to the Concord River. Eaton found this on May 31, 1921 in association with Arethusa bulbosa in a wet sphagnous meadow at Jenny Dugan Brook (specimen unknown) and at the Pratt and Jarvis location on May 28, 1961 (BEDF specimen). This author also saw it at the Punkatasset Hill station of Pratt and Jarvis near the Concord River in the early 1980s. Voucher specimen in NEBC collected by Edward Hoar on July 12 1887 at the edge of woods near the upper Second Division Brook which empties into the mill pond opposite Damon's Mills. Link to image.

**Araceae** (GM8: Araceae (in part) + Lemnaceae; TH: Araceae (in part) + Lemnaceae) Arisaema triphyllum subsp. triphyllum (GM8: Arisaema atrorubens + Arisaema triphyllum; TH: same, Arum triphyllum)

JACK-IN-THE-PULPIT

Pratt says this is very common. Hosmer and Eaton call this common. Specimen in Thoreau herbarium without date or locality. There are more than 40 references to it in Thoreau's *Journal* (which would also include the subsp. stewardsonii). Laurence Richardson collected this on June 9, 1960 at Second Division Brook (BEDF specimen). Robert Bye collected this on May 7, 1972 along Waterthrush Brook in the Estabrook Woods (BEDF specimen). Lynn Maguire and Phil Nelson collected this on July 14, 1972 at the south end of Thoreau Pond [small pond just above Thoreau mill site] in the Estabrook Woods (BEDF specimen). Voucher specimen in NEBC collected by Eaton in the Chamberlin Woods on September 29, 1958. Link to image.

Arisaema triphyllum subsp. stewardsonii (GM8: Arisaema stewardsonii; TH: not scientifically described until 1901)

Eaton says this is infrequent. No specimen in Thoreau herbarium. Eaton collected this on June 8, 1958 east of White Pond Bog (BEDF specimen). Voucher specimen in NEBC collected by Eaton on June 1, 1958 in cool, swampy woods along east branch of Second Division Brook west of Old Marlborough Road near the Sudbury boundary where he found it frequent. Link to image.

Calla palustris (GM8: same; TH: same) WILD CALLA

Pratt's note for this species is placed in error under the preceding species in his list (see comment for Peltandra virginica below). Pratt says "Rare. Swamp south of Bateman's Pond." Hosmer says it occurs at Gowing's Swamp and Brister's Spring. Eaton says this is rare with a single surviving station "northeast" of Bateman's Pond. However, Eaton's unpublished notes for his *Flora* say "Chamberlin Woods, S. E. Bateman's Pond," and the herbarium label for his collection of this states "East of Lowell Rd. opp. old Worthley farm [1227 Lowell Road]." No specimen in Thoreau's herbarium. There are about 13 references to this in Thoreau's *Journal*. On May 18, 1857 he notes that Minot Pratt found this in a swampy meadow on the north side of a rocky hillside near Bateman's Pond. On June 7, 1857 he reports that Pratt found it in flower in this particular bog. On June 9, 1857 Thoreau begins referring to the swamp where Pratt found it as Calla Swamp. On June 24, 1857 he records finding Calla at Farmer's Owl-Nest Swamp, which he distinguishes (on the same day) from "Bateman's Pond Swamp"

[Calla Swamp]. On November 2, 1857 Thoreau refers to a hillside between Calla Swamp and Bateman's Pond. On July 2, 1857 he notes finding this on the south end of Gowing's Swamp. Eaton's unpublished notes also refer to this former occurrence on the edge of the bog near Meriam's Corner [Gowing's Swamp]. Thoreau's references and Pratt's note are inconsistent with the placement of Calla Swamp by Herbert Gleason on his map of Concord showing Thoreau's localities. The clues of Pratt and Thoreau for Calla Swamp place it south of Bateman's Pond just north of a hillside with another hill between it and Bateman's Pond. See this author's *Thoreau Place Names* for the coordinates of Calla Swamp, but from which the Calla is gone. Eaton's 1955 voucher collection noted below is likely part of the original Thoreau-Pratt population. This author found it abundant in a marsh along the Cambridge Turnpike (1979), and it was reported to this author to have been seen at Gowing's Swamp in the early 1980s. On June 30, 2016 Cole Winstanley confirmed the continued presence of this at the Cambridge Turnpike with many hundreds of plants in the swamp between the outlet of Fairyland Pond and the Cambridge Turnpike. In July 2014 Cherrie Corey found hundreds of plants of this at Kalmia Swamp, specifically in a wide swath along the southern edge of the easternmost wetland basin of the swamp (at the base of a steep, hemlock slope). On June 12, 2016 Cherrie Corey and Cole Winstanley found at both Kalmia Swamps tens or hundreds of thousands of plants in blossom around the outer margins of both swamps. The occurrences along the Cambridge Turnpike, at Brister's Spring and Kalmia Swamp are introductions or spreading after Thoreau's and Pratt's time. Voucher specimen in NEBC collected by Eaton on May 15, 1955 in shallow water on mud in opening of a wooded swampy brook in Chamberlin Woods east of Lowell Road opposite old Worthley Farm [1227 Lowell Road]. Link to image.

## Lemna minor (GM8: same; TH: same)

Pratt notes this only in stagnant pools at the side of the road below Sleepy Hollow Cemetery and along the brook below. Hosmer notes the same area and says it is not uncommon. Eaton says it is sparsely common in normally acidic waters, but an abundant weed in midstream of rivers in the summer since the mid-1930s due to massive sewage pollution, adding that it might be the most abundant plant in Concord. Specimen in Thoreau's herbarium recorded as Truro '55 apparently corresponds to his only mention of this particular species in his *Journal* on July 8, 1855 while in Truro, MA. Jarvis notes this on June 17, 1835 in the brook near the jail. Laurence E. Richardson collected this in the Assabet River on July 2, 1961 (BEDF specimen). Albert Hester collected this on October 9, 1963 in a pond at the Great Meadows National Wildlife Refuge (MASS specimen). Voucher specimen in NEBC collected by E.C. Ogden and Ira L. Wiggins on October 3, 1937 abundant on quiet water of the Sudbury River. Link to image.

# Lemna perpusilla (GM8: same; TH: same)

Pratt, Hosmer and Eaton do not list this. No specimen in Thoreau herbarium or reference to this in his *Journal*. Rare in New England. Voucher specimen in GH collected by E.C. Ogden and Ira L. Wiggins (#1730) on October 3, 1937 in the Sudbury River in Concord [identified by them as Lemna minor, but identified by specialist E. Landolt in 1980 as L. perpusilla]. Link to image.

### Lemna trisulca (GM8: same: TH: same)

Pratt and Hosmer do not list this. Eaton says this is apparently rare. No specimen in Thoreau herbarium or specific mention of it in his *Journal*. Laurence Richardson collected this at Great Meadows on May 22, 1966 (BEDF specimen). Voucher specimen in NEBC collected by Eaton on October 4, 1946 abundant in still, shallow water along the middle dyke at Great Meadows. <u>Link to image</u>.

Peltandra virginica (GM8: same; TH: same, Calla virginica, Arum peltandrum)

Pratt's note for this in his manuscript ("Rare. Swamp south of Bateman's Pond.") clearly belongs under the subsequent entry, Calla palustris, which lacks comment in his manuscript, rather than to Peltandra virginica which is more common. Hosmer says this (as Peltandra undulata) is not uncommon (in the vicinity of Concord) and notes it at Gowing's Swamp. Eaton calls it common. However, his unpublished notes for his *Flora* Eaton state simply "rather widely scattered along the Concord & Sudbury Rivers." One specimen in flower in Thoreau's herbarium is from Concord based on his note for this discovered beneath a leaf during repair of the specimen. There are about 11 references to this in Thoreau's *Journal*. Eaton collected this on July 21, 1929 on the muddy riverbank of the Sudbury River near the Elm St. bridge and on July 12, 1958 on a springy riverbank of the Sudbury River above the railroad bridge (both specimens in BEDF). Laurence Richardson collected this on July 21, 1964 along the Assabet River at Annursnack Brook (BEDF specimen). Voucher specimen in NEBC collected by Edward Hoar on August 25, 1857 on the "North Branch of Concord River" [Assabet River]. Link to image.

Spirodela polyrhiza (GM8: same; TH: Lemna polyrrhiza) WATER FLAXSEED

Pratt and Hosmer do not list this. Eaton says this is locally common along rivers, especially in the Great Meadows impoundments. No specimen in Thoreau herbarium but his single *Journal* reference to it on August 30, 1860 records finding it on George Minot's land (while surveying) in one of his ditches where peat or mud was dug. Jarvis notes this on May 28, 1836 in the brook in back of the school house [probably Mill Brook]. In unpublished notes Eaton reports it as common in stagnant waters at Great Meadows in 1957. Laurence Richardson collected this on August 18, 1968 in the Sudbury River (BEDF specimen). Voucher specimen in NEBC collected by Eaton and Charles Schweinfurth on July 16, 1961 at the outlet of the bog [Heywood's Meadow] south of Walden Pond in shallow water near the culvert tunneling under the Boston & Maine [Fitchburg line] railroad embankment. Link to image.

Symplocarpus foetidus (GM8: same; TH: same, Ictodes foetidus)
SKUNK CABBAGE

This is the earliest native plant to flower in spring in Concord. Pratt and Hosmer say it is common. Eaton says it is very common. Specimen in Thoreau's herbarium without date or locality. There are about 130 references to it in Thoreau's *Journal*. The site on Clamshell Hill with an open, warm southern exposure, where Thoreau often went to see this early-flowering plant, still had a remnant population that this author saw in the early 1980s on what remains of this site beneath the Emerson Hospital parking lot by the Sudbury River just south of the Route 2 bridge across that river. Voucher specimen in GH collected by David Potter on April 5, 1925 with no locale within Concord given. Link to image.

Wolffia borealis (GM8: Wolffia punctata - misapplied; TH: not scientifically published until 1867)

Eaton says this was very rare when first discovered by Dr. Carroll Wood Jr. of Harvard in a sample collected by himself (Eaton) at Great Meadows in 1957, this being the first record known in New England (but subsequently found in all New England states except Rhode Island). It is usually sparsely associated in Concord with Wolffia columbiana (which is now more common). Laurence Richardson collected this on September 12, 1965 in the Sudbury River using the misapplied name "Wolffia punctata" and mixed with Wolffia columbiana

(BEDF specimen). Voucher specimen in NEBC collected by Eaton on October 16, 1957 in the western impoundment at Great Meadows on property of Richard Borden. <u>Link to image.</u> Wolffia columbiana (GM8: same; TH: not scientifically described until 1865)

Eaton says this was very rare when first discovered by him in Concord at Great Meadows in 1938. At that time it was only the second record for it in Massachusetts. It has since been found in all New England states except Rhode Island. Since its discovery Eaton says it has become abundant in the Sudbury-Concord river drainage system. On the same herbarium sheet of his 1938 collection is Eaton's collection of this in 1957 at the same site where he collected Wolffia borealis. Laurence Richardson collected this on September 12, 1965 in the Sudbury River mixed with Wolffia borealis (using the misapplied name "Wolffia punctata") (BEDF specimen). Voucher specimen in NEBC collected by Eaton in on September 7, 1938 abundant along the middle dyke at Great Meadows. Link to image.

**Asparagaceae** (GM8: Liliaceae (in part); TH: Liliaceae (in part))

ASPARAGUS OFFICINALIS (GM8: same; TH: same)

**ASPARAGUS** 

Pratt says this is frequent. Hosmer and Eaton call it common. No specimen in Thoreau herbarium. There are about four references to it in Thoreau's *Journal*. The explosion of asparagus production in Concord after Thoreau's death and its decline due to suburbanization in the late 20<sup>th</sup> century explains the fluctuation in occurrence of this species. David Potter collected this on July 20, 1930 along the roadside of the Cambridge Turnpike (GH specimen). Voucher specimen in NEBC collected by Edward Hoar naturalized on a riverbank on August 18, 1858. Link to image.

CONVALLARIA MAJALIS var. MAJALIS (GM8: same; TH: same) EUROPEAN LILY-OF-THE-VALLEY

Pratt indicates that he sparingly introduced this in the woods near Punkatasset Hill from his garden. Hosmer simply notes it at the "Common Lot." Eaton says it is occasional, generally abundant where it occurs. No specimen in Thoreau herbarium. The only reference in his *Journal* (which is to the common name) is not to a particular occurrence of it. P.E. Kenmore collected this on May 10, 1973 along Lexington Road in a moist, slightly shaded grass patch between a stone wall and the road (GH specimen). This author found it just east of Moore's Swamp in 1981, in the vicinity of Ball's Hill in 1982 and other places, noted as "frequent" in this author's copy of Eaton's *Flora*. Cherrie Corey reported in 2016 that this could also be found in the patch of field at the trail head to the Chamberlin Woods, and in 2021 that it spread enough to be considered simply uncommon. Voucher specimen in NEBC collected by Eaton on August 23, 1957 along Estabrook Road in low pine woods one quarter mile east of Raymond Emerson's residence [which was at the end of the paved part of Estabrook Road] on Estabrook Road. Link to image.

Maianthemum canadense (GM8: same; TH: Smilacina bifolia var. canadensis, Convallaria bifolia)

### **CANADA MAYFLOWER**

Pratt says this is very abundant. Hosmer calls it common. Eaton says it is very common. Specimen in Thoreau's herbarium is without date or locale. There are about 33 references to this in Thoreau's *Journal*. Jarvis notes it on June 7, 1835 in woods near C. Hosmer. This is still an abundant species in Concord woods. Voucher specimen in NEBC collected by Horace Mann Jr. in 1862 with no locale within Concord given. Link to image.

Maianthemum racemosum subsp. racemosum (GM8: Smilacina racemosa, including var. cylindrata: TH: Smilacina racemosa)

## FALSE SOLOMON'S-SEAL

Pratt, Hosmer and Eaton say this is common. Two specimens in Thoreau's herbarium are labeled as from Concord but with no date. There are about 23 references to this in Thoreau's *Journal*. Eaton collected this on June 10, 1956 along Estabrook Road (BEDF specimen), on September 22, 1929 in sandy woods near White Pond (NEBC specimen), and on June 7, 1960 on a wood road along a stone wall at Annursnack Hill (BEDF specimen). Colleen Handel collected this on July 19, 1972 at the junction of Estabrook Road and Hubbard Trail in the Estabrook Woods (BEDF specimen). Voucher specimen in NEBC collected by Horace Mann Jr. on June 8, 1862 with no locale within Concord given. Link to image.

Maianthemum stellatum (GM8: Smilacina stellata; TH: Smilacina stellata)

Pratt says he introduced this from Breed's Island [Boston, MA]. Hosmer says this is rather common in the Concord vicinity. Eaton excludes this believing an undated specimen of Herbert W. Hosmer (1845-1941) in NEBC from Concord without locale to be either cultivated or a Pratt introduction. No specimen in Thoreau herbarium. There are about three references to this in Thoreau's *Journal*. On May 30, 1852 Thoreau notes this in flower in Concord without specifying a particular locale. This author found it along the old railroad bed (Peter's Path) overlooking Great Meadows not far from the filter beds in 1980 and at the foot of Ball's Hill along the path by the river in 1981. This species is very widespread in New England. This author believes the station near Great Meadows was introduced but that the one near Ball's Hill is probably native. Voucher specimen in NEBC (and in BEDF) collected by this author on May 24, 1980 from the site near Great Meadows. Link to image.

Maianthemum trifolium (GM8: Smilacina trifolia; TH: Smilacina trifolia)

Pratt notes that specimens of this were gathered from the wet meadow opposite Waldo Flint's, but that he never found it himself. Hosmer does not list this. Eaton excludes this but notes what Pratt says. Specimen in Thoreau's herbarium is without date or locality. There are about six references to this in Thoreau's Journal. On May 18, 1854 he reports that this will blossom the next day at Pedrick's meadow. On May 4, 1856 he notes that this was recently up in Cedar Swamp [only site in Concord where he saw Chamaecyparis]. On May 19, 1854, after visiting Cedar Swamp to check on this, he has a footnote for this day that indicates he brought some home to see it flower two days later. It is most likely that the specimen in his herbarium is from this collection of it. Voucher specimen in GH in Thoreau's herbarium is accepted (specimens in upper part of sheet). Link to image.

ORNITHOGALUM UMBELLATUM (GM8: same; TH: same)

### STAR-OF-BETHLEHEM

Pratt's does not list this. It is included without comment in an addendum of three loose pages associated with his manuscript after his death. Hosmer notes this only at the Old Manse. Eaton says it is infrequent but locally abundant. There is no specimen in Thoreau's herbarium or reference to it in his *Journal*. Edward Jarvis notes this on June 5, 1835 near Dr. Heyward's. A specimen of Edward Jarvis at MASS without year was collected east of Miss J. Heywood's. This author found it along Monument St. on Punkatasset Hill in 1983. Voucher specimen in NEBC collected by Eaton on May 31, 1958 in Wheeler's Meadow [not Wheeler's Meadow of Thoreau] (formerly a hay field) along the Sudbury River west of the Elm Street bridge formerly where it had been naturalized and under observation for 60 years, formerly abundant there. Link to image.

POLYGONATUM BIFLORUM (GM8: Polygonatum canaliculatum - misapplied; TH: Polygonatum giganteum, Polygonatum canaliculatum - misapplied)
GIANT SOLOMON'S-SEAL

Pratt does not list this. It is included without comment in an addendum of three loose pages associated with his manuscript after his death. Hosmer notes this only at Pratt's Swamp. Hosmer included this in a list of plants introduced to Concord by Pratt for an 1899 article in *Rhodora* in a group said to be still persisting, with the added note -- "spreading." Eaton simply notes that this was introduced into Concord with location unknown. No specimen in Thoreau's herbarium. One of Thoreau's specimens labeled as such has been identified as Polygonatum pubescens by Walter Kittredge. The two references in Thoreau's *Journal* are not to occurrence in Concord. Emma Chamberlain collected this on May 17, 1903 in Sleepy Hollow Cemetery (BEDF specimen). This might still survive in the southern part of Estabrook Woods near the former Pratt residence, although there was significant landscaping done in this area in the 1980s by the then owner of that residence destroying many introduced plants there. Voucher specimen in GH collected by M.L. Fernald on May 24, 1909 established by a roadside [specimen re-identified from his original determination -- Polygonatum latifolium]. Link to image.

Polygonatum pubescens (GM8: same; TH: same, Polygonatum biflorum, Convallaria multiflora) SMALL SOLOMON'S-SEAL

Pratt says this as common, especially in the north part of town. Hosmer calls it common. Eaton says it is rather common, occasionally abundant. Specimen in Thoreau herbarium without date or locality. There are about 21 references to this in Thoreau's *Journal*. Voucher specimen in NEBC collected by Eaton on May 23, 1958 on a roadside, wooded bank along Garfield Road. Link to image.

SCILLA SIBERICA (GM8: same; TH: not treated in the manuals used by Thoreau) Pratt, Hosmer and Eaton do not list this. No specimen in Thoreau herbarium or reference to this in his *Journal*. Emile F. Williams collected this on May 10, 1908 on the G.F. Wheeler farm where it was wild and spreading (GH specimen). This author collected it on April 17, 1983 in thickets in the Minot Pratt area southwest of Punkatasset Hill where it was spreading but mostly destroyed by subsequent landscaping operations (NEBC & BEDF specimen). Voucher specimen in GH collected by Emile F. Williams on April 25, 1903 near a bog hole where it had been established for five years. Link to image.

# **Colchicaceae** (GM8: Liliaceae (in part); TH: Melanthaceae (in part))

COLCHICUM AUTUMNALE (GM8: same; TH: not treated in the manuals used by Thoreau, mentioned very briefly under the common name "crocus" in Gray's *Manual of Botany* of his time)

## **AUTUMN CROCUS**

Pratt and Hosmer do not list this. Eaton says this is rare, perhaps ephemeral. No specimen in Thoreau herbarium or reference to it in his *Journal*. At the time of Eaton's *Flora* (1974), Concord had the only record in New England. This is still a rare escape in New England, presently known from just single counties in New Hampshire, Vermont, and Massachusetts. Voucher specimens in GH and NEBC collected by M.L. Fernald on October 3, 1910 in "Damp field, toward Carlisle." Link to image.

Uvularia perfoliata (GM8: same; TH: same)

PERFOLIATE BELLWORT

Pratt does not list this. Hosmer only notes it from Stow swamp which is not in Concord. Eaton says it is rare and notes a station on Annursnack Hill discovered by Rosita and Elizabeth Corey. The two specimens in Thoreau's herbarium are not from Concord. There are about 10 references to this in Thoreau's Journal. His only references to Concord occurrence are two that are second-hand. On September 22, 1852 he notes his sister, Sophia, finding this in Concord with no date or locale given (a specimen in her herbarium now at The Thoreau Institute), and on August 22, 1857 he records Edward Hoar telling him of finding this on the Stow Road, "he thinks within Concord bounds." This author found about 18 individuals of this at the Annursnack Hill site at the southwest foot of the hill at the edge of woods not far from a residence on May 18, 1980. A resident of Annursnack Hill told Cherrie Corey of finding much of this on her property near the summit about the year 2000. Voucher specimen in NEBC collected by Eaton on June 7, 1960 in deciduous woods on the east slope of Annursnack Hill near summit where numerous, also noting in unpublished notes a second, smaller colony on the southwest side of the hill near the pasture wall [the colony this author found]. Link to image.

Uvularia sessilifolia (GM8: same; TH: same)

**WILD-OATS** 

Pratt, Hosmer (as Oakesia sessilifolia), and Eaton say that this is common. Jarvis notes this near Capt. Hunt's. Specimen in Thoreau herbarium is without date or locality. There are about 12 references to this in Thoreau's *Journal*. Mary Walker collected this on May 14, 1975 in a wooded area near Gowing's Swamp, and in August 1979 in the Estabrook Woods (both BEDF specimens). Voucher specimen in NEBC collected by Eaton on July 2, 1922 without locale within Concord given. Link to image.

## **Commelinaceae** (GM8: same; TH: Commelynaceae)

COMMELINA COMMUNIS (GM8: same, including var. ludens; TH: not treated in manuals used by Thoreau)

ASIATIC DAYFLOWER

Pratt and Hosmer do not list this. This Asian plant was evidently introduced into Concord after 1900. Eaton refers to it as infrequent. No specimen in Thoreau herbarium or reference to this in his *Journal*. Voucher specimen in NEBC collected by Eaton on September 5, 1957 on south shore of Walden Pond in low, peaty sand. Link to image.

TRADESCANTIA OHIENSIS (GM8: same; TH: not treated in manuals used by Thoreau) SMOOTH SPIDERWORT

Pratt and Hosmer do not list this. Listed by Eaton only in an appendix as perhaps probable in Concord. No specimen in Thoreau herbarium or reference to this in his *Journal*. Voucher specimen in NEBC collected by this author on June 3, 1981 in a waste area off Laws Brook Road. Link to image.

TRADESCANTIA VIRGINIANA (GM8: same; TH: Tradescantia virginica) WIDOW'S TEARS

Pratt does not list this. Hosmer lists it simply as escaped. Eaton says it is an occasional escape from cultivation. No specimen in Thoreau's herbarium or reference to it in his *Journal*. This species from farther south and west was evidently introduced into Concord after Thoreau's time. David Potter collected this on October 1, 1931 at the edge of a brook (GH specimen). Laurence Richardson collected this on May 27, 1964 at along a roadside at Barrett's Mill (NEBC specimen). Voucher specimen in NEBC collected by Eaton on June 20,

1958 on moist, steep railroad bank near the Monument Street crossing where abundant [from unpublished notes]. Link to image.

**Cyperaceae** (GM8: same; TH: same) -- Pratt and Hosmer essentially do not treat this family Bolboschoenus fluviatilis (GM8: Scirpus fluviatilis; TH: Scirpus fluviatilis)

RIVER BULRUSH

Eaton says this is rare. There are about 4 references to this in Thoreau's Journal. Two specimens in Thoreau's herbarium were collected in the Sudbury Meadows on July 10, 1859 - noted in his Journal on that date where he comments that he had not noticed it elsewhere except in that meadow. Thoreau's collection would be in Sudbury or Wayland as discussed below. Eaton suggests that his find of this at Great Meadows might be a recent migrant from upstream in Sudbury and Wayland. He states that it appears to the first collection along the Sudbury and Concord Rivers below the colony in Rice's meadow north of the Wayland bridge. He goes on to suggest that the colonies at Great Meadows were probably only more recently established subsequent to the onset of serious river pollution in 1935. Eaton says the Great Meadows location he found consists of three colonies near together where they were the dominant vegetation. Laurence E. Richardson collected this on August 9, 1964 at the Great Meadows locale of Eaton and where this author found it later (BEDF specimen). This author collected it on June 18, 1980 at the northwestern edge of the northernmost impoundment at Great Meadows where abundant (BEDF specimen). William Brace collected it at this site on Iuly 14, 2001 (NEBC specimen). Voucher specimen in NEBC collected by Eaton on July 3, 1960 at Great Meadows on the river side of the dyke at the lower impoundment. Link to image.

Bulbostylis capillaris (GM8: Bulbostylis capillaris var. crebra; TH: Fimbristylis capillaris, Scirpus capillaris)

Eaton says this is common, often abundant. Specimen in Thoreau herbarium collected in August 1858 in Concord. There are about seven references to this in Thoreau's *Journal*. Thoreau's *Journal* entry for August 25, 1858 notes finding this in peak flowering and includes a line drawing that matches very closely the shape of one of the specimens of his August 1858 collection. Edward Hoar collected this in September 1879 on a sandy high east river bank [Sudbury River] opposite Elijah Wood's (mounted on same NEBC sheet as Thoreau specimen). Eaton collected this on September 17, 1930 in dry oak woods burned the previous spring in a wood lot west of Goose Pond (BEDF specimen). Voucher specimen in NEBC collected by Thoreau in August 1858, most likely on August 25, 1858. Link to image.

For a well-illustrated summary of the Carex of Concord see Cole Winstanley's report at <a href="https://archive.org/details/carex-of-concord-massachusetts-by-cole-winstanley">https://archive.org/details/carex-of-concord-massachusetts-by-cole-winstanley</a>. Identifications of some of Thoreau Carex specimens by Carex specialist Lisa Standley were done in 1989 at this author's behest.

Carex alata (GM8: same; TH: not distinguished in the manuals used by Thoreau) Eaton says this is occasional in Concord. Specimen in Thoreau's herbarium was collected in Moore's Swamp on July 3, 1859 (as Carex straminea). Edward Jarvis collected this in July 1835 in "Concord [Fair] Haven Pond meadows" originally identified by him as "Carex straminea?" and later identified as Carex alata by Eaton (MASS specimen). In unpublished notes Eaton indicates that it occurs in boggy turf at the Concord Country Club which corresponds to his collection of it on June 29, 1930 with Ludlow Griscom in a wet meadow by Jenny Dugan Brook (BEDF specimen). Cole Winstanley reported finding this at Well

Meadow on June 17, 2016 which is a meadow at Fair Haven Bay (where Jarvis found it), and near old-growth Pinus strobus in the Town Forest (2016). Voucher specimen in NEBC is Thoreau's specimen noted above. Link to image.

Carex albicans var. emmonsii (GM8: Carex emmonsii; TH: Carex novae-angliae (in part), Carex varia)

Eaton says this is uncommon. No specimen of this from Concord in Thoreau herbarium. There are no definite references to this in Thoreau's *Journal*. Eaton notes finding this on June 28, 1959 in rich leaf mould on a wooded bank on the east side of Sleepy Hollow Cemetery (specimen unknown). Eaton collected this on June 27, 1959 on the summit of a wooded dioritic ledge along Garfield Road (BEDF specimen). Cole Winstanley reported finding this on rocks at the top of Bemis Cliffs and Fairhaven Cliffs (2016). Voucher specimen in the herbarium of Brown University collected by Eaton on June 20, 1959 in dry woods on the edge of a Chamaecyparis swamp west of Strawberry Hill Road. Link to image.

Carex annectens (GM8: same, including var. xanthocarpa; TH: not scientifically described until 1908)

Eaton says this is rather common. This would have been included under Carex vulpinoidea in Thoreau's time, but Thoreau does not mention that species in his *Journal*, and there is no specimen in his herbarium. Eaton collected this on June 15, 1936 at a grassy pond shore on his wood lot near Goose Pond (NEBC specimen) and on June 20, 1960 along a dry wood road about 300 yards east of Bateman's Pond (BEDF specimen). William Brace collected this on June 7, 1996 in the Old Calf Pasture (NEBC specimen). Doug Goldman collected this on July 4, 2009 in the Willow Guzzle Reservation (GH specimen). Cole Winstanley reported finding this frequent to common, for example, at Old Calf Pasture, a dirt road near Lexington Road, Great Meadows, and near the Concord River at Liberty Street (2016). Voucher specimen is in NEBC collected by Eaton on June 17, 1934. Link to image.

Carex appalachica (GM8: mostly "Carex radiata" misapplied; TH: not scientifically described until 1979, would have been included in Carex rosea)

Eaton says this (as "Carex radiata") is locally rather common. No specimen in Thoreau herbarium. Specimen in NEBC collected by Eaton on June 29, 1930 in wet, swampy woods near Kalmia Bog is either this or Carex radiata, Cole Winstanley believing it to be the latter. Winstanley reported finding this infrequent and local, for example, at Well Meadow and in a swamp near the Calla palustris along the Cambridge Turnpike (2016). Voucher specimen in NEBC collected and photographed by Cole Winstanley on June 10, 2016 in a swampy glade in the southern part of Chamberlin Woods. Image not available.

Carex arctata (GM8: same; TH: same)

Eaton does not list this. No specimen in Thoreau herbarium or reference to it in his *Journal*. Cole Winstanley found and photographed a small but vigorous colony of this on June 25, 2016 on the north side of Annursnack Hill at the base. There is only one other historic record (1885) of this in Middlesex County. Voucher specimen in NEBC collected by Cole Winstanley on June 26, 2016 along woodlan trail at Annursnack Hill. Image not available.

Carex argyrantha (GM8: same; TH: not distinguished in the manuals used by Thoreau) Eaton says this is rare. No specimen in Thoreau herbarium. William Brace collected this on a sandy bank of the railroad track at Walden Pond on August 26, 1995 and on June 29, 1996 at the same location (latter specimen in NEBC). Voucher specimen in GH (and NEBC) collected by Charles W. Jenks and Charles W. Swan on July 6, 1888 at Bateman's Pond. Link to image.

Carex atlantica subsp. capillacea (GM8: Carex howei; TH: not scientifically described until 1893)

Eaton says this (as Carex howei) is uncommon. No specimen in Thoreau herbarium. Eaton collected this on June 8, 1957 in a rich, moist glade north of White Pond (BEDF specimen). William Brace collected this on May 24, 1996 in a marsh close to "Rasmussen bk." [Dakin's Brook] and on June 6, 1996 in a wet meadow at "Bovey pond and ck." [at 206 Estabrook Road] (both NEBC specimens). Cole Winstanley reported finding this frequent, for example, in the Mink Pond (in Estabrook Woods) vicinity, in Fairyland Pond, Chamberlin Woods, a few wetlands near Annursnack Hill, and Well Meadow (2016). Voucher specimen in NEBC was collected by Edward Hoar in an alder swamp near Oak Meadow [now Mink Pond in the Estabrook Woods] on June 15 (no year given), identification by Carex specialist A. Reznicek in 1988. Link to image.

Carex backii (GM8: same; TH: same)

Eaton does not list this. No specimen in Thoreau herbarium or reference in his *Journal*. This endangered and extremely rare Carex was discovered for the first time in eastern Massachusetts by Cole Winstanley on May 28, 2016 on a rock outcrop in the general vicinity of Bateman's Pond near the Chamberlin Woods. The identification was confirmed by Carex specialist Dr. Lisa Standley. Voucher specimen in NEBC collected by Cole Winstanley on May 30, 2016. Image not available. See Appendix G for photo of live specimen.

Carex blanda (GM8: same; TH: included under Carex laxiflora)

Eaton says this is uncommon. Thoreau specimens in NEBC include one that he labeled "Carex laxiflora-like of May 4, 1859." Thoreau's Journal for that date refers to a Carex laxiflora-like sedge at Lee's Cliff. This specimen was identified as Carex blanda in 1922 by the Carex specialist K.M. Wiegand. A second collection on this sheet collected by Thoreau without date or locality is presumed also to be Carex blanda even though there is not a separate identification of it by Wiegand. The second one is labeled by Thoreau "C. laxiflora (??) as var. striatula (??) of Lee's C.[liff] but culm not 2-edged not slender spikes." Edward Hoar collected this from Conant's Cliff on May 19, 1858 (NEBC specimen). Eaton notes a collection of this by himself from this same station on June 25, 1932, but the his specimen is missing. An Eaton specimen in the herbarium at Brown University was collected on June 20, 1959 at the foot of Annursnack Hill on the south side. Eaton collected it on July 1, 1959 also in rich woods at the foot of Annursnack Hill on the north side (BEDF specimen). William Brace collected this in the wet meadow of the Old Calf Pasture on May 29, 1996, identified by Carex specialist Anton Reznicek (NEBC specimen). Cole Winstanley found this to be common in the vicinity of the meeting of the Sudbury, Assabet and Concord Rivers, but infrequent elsewhere, mostly on rich trailsides such as at the cul-de-sac on Sandy Pond Road, the southern slope of Annursnack Hill, Estabrook Road, a dirt road between the Cambridge Turnpike and Lexington Road, the Willow Guzzle Reservation and next to the Elymus hystrix at the parking lot of the Town Forest (2016). Voucher is NEBC specimen collected by Thoreau on May 4, 1859 at Lee's Cliff. Link to image.

Carex brevior (GM8: same; TH: not treated in the manuals used by Thoreau, would have been included by him under C. straminea)

Eaton says this common. However, the only collection of this he could cite was a collection by Thoreau which in fact turns out to have been collected in Bridgewater [New Hampshire] and has been re-identified as Carex merritt-fernaldii. No specimen in Thoreau's herbarium from Concord. Cole Winstanley found this in a dry field north of Newbury Field west of Lowell Road. Voucher specimen in NEBC collected by Cole Winstanley on July 1, 2016 in a dry

field along the Fitchburg line railroad tracks near the Acton town line. Image not available. See Winstanley's Carex summary for photographs.

Carex bromoides subsp. bromoides (GM8: same: TH: same)

Eaton lists this in an appendix as unlikely in Concord. No specimen in Thoreau herbarium. Thoreau refers to this once in his *Journal* finding it on June 8, 1860 at Well Meadow. In May 2016 Cole Winstanley found this next to two large patches of Matteuccia struthiopteris next to the Assabet River. Cole Winstanley reported finding this also at Well Meadow (as did Thoreau) on June 17, 2016, at Azalea Brook on June 21, 2016, at "Botrychium Swamp" [in Estabrook Woods], in the ravine in the Bemis Woods, and on the southern slope of Annursnack Hill (2016). Voucher is specimen in NEBC collected by Cole Winstanley on June 12, 2016 in a wet swale at Barrett's Mill. Image not available.

Carex brunnescens subsp. sphaerostachya (GM8: same; TH: Carex canescens var. sphaerostachya, or included under Carex canescens var. vitilis)

Eaton notes this is uncommon in Middlesex County, MA. Specimen in Thoreau herbarium is undated and labeled "C. alpicola," with words "by camp" and a note on the reverse "canescens var. vitilis" and "Hoar." His lengthy Journal entry for August 9, 1860 appears to list this as "canescens -like" and refers elsewhere to their camp on the summit of Mt. Monadnock in New Hampshire. The specimen has been identified as Carex brunnescens by L.A. Standley, a Carex specialist, in 1989. There are about three references in Thoreau's Journal to this or Carex canescens subsp. canescens. On June 19, 1859 he notes that one of these two species was in Heywood's Meadow and on June 13, 1860 that one of these two species was the prevailing sedge at Ledum Swamp hanging over the ditches and pool. William Brace collected this on June 30, 1997 in wet woods along a forest trail in the Old Rifle Range conservation land, identification confirmed by Carex specialist Anton Reznicek (NEBC specimen). In May 2016 Cole Winstanley found this throughout a swampy glade in the southeasternmost portion of the Chamberlin woods. Cole Winstanley reported finding this also at Well Meadow on June 17, 2016, north of Annursnack Hill and near the Old Manse (2016). Voucher in NEBC (and in BEDF) collected by Eaton on July 6, 1958 at the east branch of Second Division Brook. Link to image.

Carex bullata (GM8: same; TH: same)

Eaton says this is common. Specimen in Thoreau's herbarium in NEBC (identification confirmed by Walter Kittredge) was collected on June 16, 1859 and is mentioned in his *Journal* on that date as found at Great Meadows. Jarvis collected this in meadows in June 1835 (MASS specimen). Edward Hoar collected this on shaded wet ground above Nine-acre Corner Bridge, at the foot of Conantum Cliff [Hoar's name for Martha's Point], and at the Concord River (NEBC specimens). Eaton collected this on July 1, 1959 in a quaking sphagnum bog at the foot of Annursnack Hill on the east side (BEDF specimen). Laurence E. Richardson collected June 8, 1961 in Spencer Brook meadow (BEDF specimen). Cole Winstanley reported finding this to be common, for example, at Macone Farm Lane, Boaz's Meadow, near the Hanscom gate 13A driveway and in Ministerial Swamp (2016). Voucher is Thoreau's specimen in NEBC. Link to image.

Carex buxbaumii (GM8: same; TH: same)

Eaton says this is uncommon. No specimen in Thoreau herbarium. In his *Journal* on June 16, 1859 Thoreau notes this at Great Meadows on the dry hard bank by the river and on May 14, 1860 at Smith's shore. [Julius Michael Smith (1823-1912) at that time lived on Main Stree with the Sudbury River at the rear of his property.] Edward Hoar collected this on May 18 & 23, 1858 in a swamp near Egg Rock (NEBC specimen). Eaton collected it on June 11, 1932 in a wet meadow at Spencer Brook (BEDF specimen). Cole Winstanley reported finding

this only in an acidic part of the Old Calf Pasture, about 75 to 150 plants, probably related to Edward Hoar's station (2016). Voucher specimen in NEBC collected by Walter Deane on July 7, 1886 in low ground. Link to image.

Carex canescens subsp. canescens (GM8: Carex canescens, including var. subloliacea; TH: same) Eaton says this is not common. No specimen in Thoreau herbarium identified as this particular subspecies of Carex canescens. There are about three references in Thoreau's *Journal* to this (including subsp. disjuncta) or Carex brunnescens subsp. sphaerostachya. On June 19, 1859 he notes that one of these two subspecies was in Heywood's Meadow and on June 13, 1860 that one of these two subspecies was the prevailing sedge at Ledum Swamp hanging over the ditches and pool. Voucher specimen in NEBC specimen collected by Eaton on June 11, 1932 at Spencer Brook. Link to image.

Carex canescens subsp. disjuncta (GM8: same; TH: this taxon was not scientifically described until 1902)

Eaton says this is common. Specimens in NEBC collected by Thoreau and identified by Carex specialist Lisa Standley (without designating the subspecies) were collected on June 11, 1859 from Owl Swamp, on May 28, 1860 from "Stow - meadow ditch," and in 1859 without particular locale in Concord. The identification of this as the common subspecies disjuncta by Fernald on the NEBC accession label is accepted. Thoreau's *Journal* references to this species noted in the preceding entry would include this subspecies and most likely to be this. Eaton collected this on June 5, 1921 in wet woods near the source of Jenny Dugan Brook, and on June 10, 1961 in floating sphagnum moss in the bog south of Walden Pond (Heywood's Meadow) at the west end (both BEDF specimens). Eaton collected this on July 2, 1960 in wet sphagnum floating in shallow water in a red maple swamp in the Kalmia Woods (MASS). William Brace collected this on May 24, 1996 in a wet marsh or meadow in Walden woods, possibly in Heywood Meadow just south of Walden Pond (NEBC specimen). Voucher specimen is at Brown University collected by Eaton on June 26, 1959 in the Chamaecyparis swamp west of Strawberry Hill Road. Link to image.

Carex cephalophora (GM8: same; TH: same)

Eaton says this is frequent. No specimen in Thoreau herbarium. There are two references to this in Thoreau's *Journal*. On June 11, 1855 he notes a possible occurrence of this on Heywood's Peak. William Brace collected this on June 29, 1996 in dry, Walden woods (NEBC specimen). Cole Winstanley reported finding this still frequent, for example, on rocks southwest of White Pond, near the Bemis Cliffs off Strawberry Hill Road, in sand near the parking lot for the Great Meadows refuge and with grasses near the Chamberlin Woods trailhead (2016). Voucher specimen in NEBC specimen was collected by Edward Hoar on a rocky bank above witch-hazels at Conantum (undated). Link to image.

Carex comosa (GM8: same: TH: same)

Eaton says this is common. Thoreau's herbarium has specimens from Moore's Swamp road collected on July 3, 1859 and from Owl Swamp undated. There are three references to this in Thoreau's Journal, two of them unpublished. On August 29, 1857 and September 8, 1858 he notes seeing this at Owl-Nest Swamp. On June 22, 1860 he believes he finds it at Moore's Swamp. Eaton collected this on June 29, 1930 in an open maple swamp in West Concord near White Pond, on July 18, 1957 at Great Meadows, and on July 9, 1961 in a boggy open swamp in [William] Brewster's Woods (all BEDF specimens). William Brace collected this on June 19, 2001 at the marshy edge of the pond in the Town Forest (NEBC specimen). Cole Winstanley reported finding this to be frequent, for example, common near the opening of Mill Brook into the Concord River, at Well Meadow Head, and near the Old Manse and

Concord River (2016). Voucher specimen in NEBC is Thoreau's collection on July 3, 1859. Link to image.

Carex conoidea (GM8: same; TH: same)

FIELD SEDGE

Eaton says this is uncommon. Specimen in Thoreau herbarium collected on July 3, 1859 at Hubbard Bath meadow. There is one reference to this in Thoreau's *Journal*. William Brace collected this in a wet meadow at "Keyes Pond" [small pond just north of 49 Liberty Street] on June 9, 1995 and on June 28, 1998 in wet woods at "Bovey ck." [creek at 206 Estabrook Road] (the latter an NEBC specimen). Edward Hoar collected this at Ball's Swamp and Ball's Meadow (both undated in NEBC). Cole Winstanley reports finding this near a path behind the Old Manse and in a field at Macone Farm Lane (2016). Voucher in NEBC is Thoreau's specimen of July 3, 1859. Link to image.

Carex crinita var. crinita (GM8: same; TH: same, but including Carex gynandra) Eaton says this is common. Specimens in Thoreau's herbarium collected on June 3, 1859 and June 22, 1858 and are mentioned in his *Journal* for these dates, the latter at Egg Rock. There are about seven references in his *Journal* to this or Carex gynandra. Laurence E. Richardson collected this on July 10, 1964 on a bank of the Assabet River (MASS specimen). C. Barre Hellquist collected this on August 5, 1970 along the Concord River (MASS specimen). William Brace collected this by a brook at 49 Liberty Street on June 1, 1995 and in a meadow at the same locale on July 9, 1996, the latter collection (in NEBC) confirmed by Carex specialist Anton Reznicek. Cole Winstanley reported this still to be common, for example, near the Old North Bridge (2016). Voucher specimen in NEBC is Thoreau's collection of June 22, 1858. Link to image.

Carex cryptolepis (GM8: Carex flava var. fertilis (in part); TH: not scientifically described until 1914)

This is a species missing from Eaton's *Flora* since the voucher specimen was not identified by the Carex specialist W.J. Crins until 1985 and not considered a separate species in GM8. Its presence throughout most of New England except the southeast coast suggests that it is frequent. No specimen in Thoreau herbarium. Voucher specimen in NEBC collected by Edward Hoar at Dennis' shore in a Concord River meadow on July 10. Link to image.

Carex cumulata (GM8: same; TH: not scientifically described until 1889)

Eaton says this is rare. Specimen in Thoreau's herbarium named by him Carex straminea was collected on July 3, 1859 and later identified by M.L. Fernald as Carex cumulata. A Thoreau specimen collected on the same date (from Moore's Swamp) that was also named by him as Carex straminea was originally mounted by Edward Hoar with this specimen on the same sheet, but was subsequently identified as Carex alata and remounted by the NEBC on a separate sheet along with Thoreau's label. Thus, the locality of this specimen of Carex cumulata is Moore's Swamp. No other specimens from Concord are known. Voucher specimen in NEBC is Thoreau's collection of this. Link to image.

Carex debilis var. rudgei (GM8: same; TH: same except that the variety was not scientifically described until 1889)

Eaton says this is very common. Specimen in Thoreau herbarium collected on June 11, 1859, his *Journal* indicating he was in Concord on that day. There are about four references to this in Thoreau's *Journal*. On May 28, 1860 he notes this apparently at Deep Cut. Jarvis collected this as Carex flexuosa on June 29, 1835 in meadows north of Bigelow's (MASS specimen). Edward Hoar collected this in the last week of May, 1858 in a damp pasture next to Mr. Prichard's [Moses Prichard, Hoar's next-door neighbor and father-in-law on Main St.] (CONN specimen). William Brace collected this on June 26, 1996 in wet woods of the

southern portion of Great Meadows (NEBC specimen). Cole Winstanley reported this to be very common in all low woods, and some disturbed, brushy areas and shady fields (2016). Voucher specimen in NEBC is Thoreau's collection of it. Link to image.

Carex digitalis var. digitalis (GM8: same; TH: same, but possibly including Carex laxiculmis) Eaton says this is uncommon. No specimen in Thoreau herbarium or reference to this in his *Journal*. Eaton collected this on July 1, 1959 at the foot of Annursnack Hill in rich woods on the north side (BEDF specimen), on a dioritic ledge of rocky woods in Conantum (BEDF specimen), and on June 11, 1960 100 meters south of Martha's Point (BEDF and Colgate University specimens). William Brace collected this on June 28, 1998 in wet woods near "Bovey ck." [creek along property at 206 Estabrook Road] and on June 5, 1999 in wet woods of the Town Forest (both NEBC specimens). Cole Winstanley confirmed the persistence of this near Martha's Point on June 12, 2016. He also found it among beeches near Lexington Road, on the Dogwood Peninsula in Estabrook Woods, at Punkatasset Hill and below the Bemis Cliffs (2016). Voucher specimen in NEBC collected by Eaton on June 25, 1932 on gravelly talus at Conantum Cliff [Conantum Cliffs, see this author's *Thoreau Place Names*], the Fessenden cliff where Ulmus rubra once grew. Link to image.

Carex disperma (GM8: same; TH: Carex tenella)

Eaton says this is rare. Specimen in Thoreau herbarium collected on June 8, 1860 at Well Meadow. Thoreau's *Journal* for this date (his only reference to it) records that he found it there near the earliest cowslip (Caltha palustris) all in seed and much seed fallen. Eaton collected this on July 10, 1958 at the east branch of Second Division Brook (NEBC specimen). This auhor collected it on May 18, 1981 where it was abundant at the west edge of Nut Meadow Swamp in sphagnous woods near a station of Labrador Tea that was unknown to Thoreau, Pratt, Hosmer and Eaton (BEDF specimen). Cole Winstanley reported finding this at Well Meadow (where Thoreau found it) on June 17, 2016. Voucher specimen in NEBC is Thoreau's collection of it. Link to image.

Carex echinata subsp. echinata (GM8: Carex angustior + Carex cephalantha + Carex echinata; TH: Carex stellulata)

Eaton says this is common. Specimen in Thoreau herbarium without date or locality. There are about eight references to this in Thoreau's *Journal*. William Brace collected this on May 30, 1998 in a wet meadow at "Keyes mdw." [meadow north of 49 Liberty St.], identification confirmed by Carex specialist Anton Reznicek (NEBC specimen). Eaton collected this on June 11, 1932 in a sedgy meadow at Spencer Brook (BEDF specimen), on June 6, 1958 at a swampy brookside west of Old Marlborough Road near Sudbury line (NEBC specimen), and on June 10,1961 at the western edge of the sphagnum bog south of Walden Pond [Heywood's Meadow] (NEBC specimen). All NEBC specimens identified by the Carex specialist Anton Reznicek in 1986. Cole Winstanley reported finding this abundant in peaty sand at Macone Farm Lane, the vicinity of Well Meadow, in sphagnum in the fen near Lexington Road, and among the Picea rubens near the Acton Line and the Fitchburg Railroad (2016). Voucher specimen in NEBC collected by Edward Hoar on June 11 (no year) in a river meadow at Lee's Cliff near sessile-leaved ash [Fraxinus nigra]. Link to image.

Carex exilis (GM8: same; TH: same)

Eaton says this is rare. No specimen in Thoreau herbarium. In his only *Journal* reference to this Thoreau notes on May 25, 1855 what he thinks might be this on the river shore opposite Wheeler's gate [near Sudbury River in the vicinity of Nashawtuc Hill]. Edward Tuckerman collected this in a sphagnum bog in Concord on a date unknown (New York Botanical Garden specimen). Voucher specimen in NEBC collected by Edward Hoar on June 2,

1890 a swamp at the southern foot of Annursnack Hill [likely Thoreau's Painted Cup Meadow]. Link to image.

Carex festucacea (GM8: same; TH: same)

Eaton does not list this. There is no specimen in Thoreau's herbarium or reference to this in his *Journal*. Jarvis collected this in Concord (as Carex scoparia) on June 20, 1835, identified by Karen Searcy in 2014 (MASS specimen). William Brace collected this on June 19, 2001 in a wet meadow at "Keyes E, above trail" [east side of Keyes pond or Keyes brook north of 49 Liberty Street], identification confirmed by this author (NEBC specimen). Voucher specimen in NEBC collected by Eaton on June 17, 1934 near the Old Manse as Carex tenera but identified by this author and two colleagues as Carex festucacea. Link to image.

Carex flava (GM8: same, including var. fertilis (in part), but not Carex cryptolepis; TH: same) YELLOW SEDGE

Eaton says this is uncommon, but "Common" in his unpublished notes for his *Flora*. No specimen in Thoreau herbarium. Thoreau refers to this about four times in his *Journal*, particularly along the railroad on June 21, 1860. Eaton collected this on July 20, 1961 in moist, peaty sand in French's Meadow near the Sudbury River (BEDF specimen). Voucher specimen at Colgate University (GRCH) collected by Eaton on June 29, 1930 in a meadow near Jenny Dugan Brook. Image not available.

Carex foenea (GM8: Carex aenea, not the "Carex foenea" used in this manual; TH: same) Eaton does not list this (his "Carex foenea" listed is Carex siccata). No specimen in Thoreau's herbarium or reference to it in his *Journal*. Voucher specimens (two) at Yale University herbarium collected by Charles W. Jenks and Charles W. Swan on July 6, 1888 at Bateman's Pond. Link to image.

Carex folliculata (GM8: same; TH: same)

Eaton says this is common. Specimen in Thoreau herbarium (lacking Thoreau's original label) has Edward Hoar's transcription of the label -- given as June 25 at Hubbard's Grove. No references to this in Thoreau's *Journal*. However, on June 25, 1858 he notes finding in the meadow or in the west end of Hubbard's Grove a smooth, rather flaccid rush with roundish spikes, about 20 inches high somewhat [Carex] flava-like. This matches the specimen in his herbarium. Other years on this date during the period he was focused on Carex do not place him at Hubbard's Grove. Edward Hoar collected this on July 12 (no year) in Storr's meadow west of Thoreau Street (NEBC specimen). William Brace collected this on June 26, 1996 in the southern portion of Great Meadows in wet woods (NEBC specimen). Cole Winstanley reported finding this frequent, for example, in Estabrook Woods in the Carlisle Swamp, near the fen south of Lexington Road, and near the old growth Pinus strobus south of Cambridge Turnpike (2016). Voucher specimen in NEBC is Thoreau's collection of it. Link to image.

Carex gracillima (GM8: same; TH: same)

Eaton says this is rather common. There is no specimen in Thoreau's herbarium, but in his *Journal* he refers to it once on May 23, 1860 finding it below Flint's Bridge along the Concord River. William Brace collected this on May 24, 1996 in wet woods along "Rasmussen bk." [Dakin's Brook] (NEBC specimen). Cole Winstanley reported this frequent in rich woods, usually near trailsides, seeps or other moist spots, and almost always with Carex laxiculmis (2016). Voucher specimen in NEBC collected on June 11 (no year) by Edward Hoar in a river meadow at Conantum cliff [Hoar's name for Martha's Point]. Link to image.

Carex gynandra (GM8: Carex crinita var. gynandra; TH: included under Carex crinita)
Eaton says this is common. No specimen Thoreau's herbarium. There are about 5 references
to this or Carex crinita var. crinita in Thoreau's journal. William Brace collected this on June

26, 1996 in a wet meadow at "Bovey pond and bk." [at 206 Estabrook Road], identification confirmed by Carex specialist Anton Reznicek (NEBC specimen). Cole Winstanley reported finding this to be very rare, a single clump in a swale just southeast of the new interchange between Route 2 and Sandy Pond Road near Crosby's Corner (2016). Voucher specimen in NEBC (and BEDF) collected by Eaton on June 12, 1932 in a wet meadow at G.[eorge] F. Root's Farm [Intervale Farm on Sandy Pond Road]. Link to image.

Carex haydenii (GM8: same; TH: not treated in the manuals used by Thoreau and probably included in Carex crinita)

Eaton says this is occasional. No specimen in Thoreau's herbarium. Eaton collected this on June 11, 1932 in a meadow along Spencer Brook (NEBC specimen). William Brace collected this on June 24, 1996 and July 7, 2001 in a meadow at the Old Calf Pasture, identification of the earlier collection has been confirmed by Carex specialist Anton Reznicek (both specimens in NEBC). Cole Winstanley reported finding this to be frequent, for example, near the Lowell Road causeway, the Cambridge Turnpike, and the Old North Bridge (2016). Voucher specimen in NEBC collected June 11 (no year) by Edward Hoar near the sessile-leaved ash [Fraxinus nigra] at Conantum (identification confirmed by Carex specialist Lisa Standley). Link to image.

Carex hirsutella (GM8: same; TH: not scientifically described until 1923)

Eaton says this is very rare. No specimen in Thoreau herbarium. William Brace collected this on June 26, 1996 in a wet meadow at Great Meadows in the southern section (NEBC specimen). The identification of Brace's specimen was confirmed by Carex specialist Anton Reznicek. In 2021 Cole Winstanley reported that he confirmed this was still in the Chamberlin Woods where Eaton collected the vboucher specimen. Voucher specimen in NEBC collected by Eaton on June 16, 1957 in dryish woods in the Chamberlin Woods east of Lowell Road and south of Bateman's Pond. Link to image.

Carex intumescens (GM8: same; TH: same)

Eaton says this is common. Specimen in Thoreau herbarium with his original label missing but a transcription of what was on it by Edward Hoar reads -- in a moist open meadow on June 20. The only specific reference to it in Thoreau's *Journal* is on June 8, 1860 where he notes it at Well Meadow just south of the earliest cowslip [Caltha palustris]. However, his entry for June 20, 1858 suggests that this was the date he collected the specimen in his herbarium. On that date he refers to a sedge with a long beak, some time out of bloom, two feet high common just north of the new stone bridge [over the Sudbury River] and of which he made a pressed specimen. No other June 20 entries for the years during which he was focused on Carex refer to a sedge. William Brace collected this on September 11, 1996 in wet woods in the southern portion of Great Meadows (NEBC specimen). Cole Winstanley reported finding this common in the same places as Carex crinita, such as near the Old Manse and in the southeast corner of Barrett's Mill Farm (2016). Voucher specimen in NEBC is Thoreau's collection of it (identification confirmed by Carex specialist A. Reznicek). Link to image. Carex lacustris (GM8: same; TH: same)

Eaton says this is rare. There is no specimen in Thoreau's herbarium or reference to this in his *Journal*. On June 25, 2016 Cole Winstanley found this abundant in a circumneutral fen approximately in the middle of Estabrook Woods, with stems about 2 meters high. Voucher specimen in NEBC under the synonym Carex riparia collected by Edward Hoar on June 17 (no year) at the shore opposite W.[oodward] Hudson's [Hudson's house is at 252 Main St. opposite the Thoreau-Alcott House. The opposite shore on the Sudbury River would be part of what Thoreau called Wheeler's Meadow and what Eaton called Hurd's meadow.]. Link to image.

Carex lasiocarpa (GM8: same, including var. americana; TH: Carex filiformis)
Eaton says this is frequent. There is no specimen in Thoreau's herbarium or reference to this in his *Journal*. Jarvis collected this on June 21 1835 in the Concord Meadows (MASS specimen). Eaton collected this on June 23, 1961 in the floating sphagnum bog south of Walden Pond [Heywood's Meadow] where scarce (BEDF specimen). Laurence E. Richardson collected this on June 9, 1962 at the same location as Eaton's specimen (MASS specimen). William Brace collected this in the Old Calf Pasture on July 4, 1995. Cole Winstanley reported finding this scarce, but common in parts of the Old Calf Pasture and Heywood's Meadow (2016). Voucher specimen in NEBC was collected on June 21 (no year) by Edward Hoar at Hurd's meadow [Wheeler's Meadow of Thoreau near Nashawtuc Bridge]. Link to image.

Carex laxiculmis var. laxiculmis (GM8: same; TH: not treated in the manuals used by Thoreau, probably included in Carex laxiflora or Carex digitalis)

Eaton says this is occasional. Specimen in NEBC collected by Thoreau on June 15, 1859 at Annursnack Hill was labeled by him as Carex retrocurva. Eaton's unpublished notes indicate he saw or collected this on August 25, 1957 north of Punkatasset Hill, no specimen known. Cole Winstanley reported this to be common in the swath including Punkatasset Hill, most of the Estabrook Woods, the Bateman's Pond area, the Bemis Cliffs area, and the Annursnack Hill vicinity, but finding it elsewhere only near Lexington Road and at the Willow Guzzle Reservation in the vicinity of Conantum (2016). Voucher specimen in NEBC collected by Eaton on Sept. 20, 1961 on the wooded path along the east shore of Bateman's Pond. Link to image.

Carex laxiflora (GM8: same; TH: same, but including Carex blanda and possibly including Carex laxiculmis)

Eaton says this is uncommon. There is no specimen in Thoreau's herbarium and his only *Journal* reference is to what has been determined to be Carex blanda. William Brace collected this on June 19, 2001 in moist woods by the eastern section of the railroad bed at Great Meadows (NEBC specimen). Cole Winstanley in May 2016 found this on the cliffs just southeast of Bateman's Pond and also on the same rock as Carex backii. He reports this to be frequent in the Estabrook Woods with more than ten stations, but also on the northern slope of Annursnack Hill and the Reformatory Branch trail [railroad bed] near the Bedford line, apparently where William Brace collected it (2016). Voucher specimen in NEBC collected by Eaton on June 25, 1932 in dry leaf mold on the talus slope at Conantum Cliff [Conantum Cliffs, see this author's *Thoreau Place Names*]. Link to image.

CAREX LEPORINA (GM8: same; TH: not treated in the manuals used by Thoreau) Eaton lists this only in an appendix as very unlikely in Concord. No specimen in Thoreau herbarium or reference to it in his *Journal*. Voucher specimen in BEDF collected by Eaton on July 10, 1961 in wet, open woods at the margin of a river meadow at the north border of the Nashawtuc Country Club. No image available.

Carex leptalea (GM8: same; TH: Carex polytrichoides)

Eaton says this is rare. Specimen in Thoreau's herbarium was collected on June 19, 1859 at Spanish Meadow which is in Lincoln. His *Journal* entry for that dates notes that he found it at Spanish Meadow Swamp [Lincoln] and in woods at Heywood Meadow's (mostly in Concord). There are three references to this in Thoreau's *Journal*. On May 26, 1860 he notes finding this in Botrychium Swamp [same as or part of Thoreau's Yellow Birch Swamp in Estabrook Woods]. On June 8, 1860 he mentions finding it at Well Meadow. Eaton collected this on June 25, 1932 on the moist bank of a brook about 100 yards south of Martha's Point (BEDF specimen). In May 2016 Cole Winstanley found this in a swampy glade in the

southeasternmost portion of the Chamberlin woods and collected it on June 10, 2016 (NEBC specimen). Cole Winstanley reported finding this (where Thoreau also found it) at Well Meadow on June 17, 2016. He also notes that he saw it at eleven stations with significant populations in the Estabrook Woods, Well Meadow Head, streamsides from Brister's Spring to Fairyland Pond and in muddy woods in the Willow Guzzle Reservation (2016). Voucher specimen in NEBC collected by William Brace on July 16, 1998 in a wet meadow at Spencer Brook on Concord Land Conservation Trust property. Link to image.

Carex longii (GM8: same; TH: species not scientifically described until 1923)
Eaton says this is rare. No specimen in Thoreau herbarium. Voucher specimen in NEBC collected by Eaton on August 24, 1930 on boggy turf at the Concord Country Club. <u>Link to image</u>.

Carex lucorum var. lucorum (GM8: Carex pensylvanica var. distans; TH: included in Carex "pennslvanica", but possibly under Carex novae-angliae in Gray's *Manual of Botany* of Thoreau's time)

Eaton does not list this. There is no specimen in Thoreau's herbarium or reference to this in his *Journal*. William Brace collected this on May 22, 1996 in dry woods or dry meadow near "Bovey pond and bk." [brook and pond at 206 Estabrook Road]. His collection includes Carex pensylvanica on the same sheet, Carex specialist Anton Reznicek confirming that four fertile stalks not connected to foliage are Carex lucorum. Voucher specimen in NEBC is Brace's collection. Link to image.

Carex lupulina (GM8: same; TH: same)

Eaton says this is frequent. Thoreau specimen in NEBC collected on June 30, 1859 from "Smith shore & river shore generally." [Julius Michael Smith (1823-1912) at that tme lived on Main Street with the Sudbury River behind his property.] There are about six references to this in Thoreau's Journal. Jarvis notes this on June 27, 1835 in Merrick Pasture [which included today's Old Calf Pasture]. Jarvis collected this on June 22, 1835 "near Garrison's" (MASS specimen). Edward Hoar collected this on July 25 [no year] at "Shaded mud; River bank Egg Rock" (NEBC specimen). Eaton collected this on September 12, 1931 on a river bank of the Sudbury River, and on July 3, 1960 win a wet river meadow at Great Meadows National Wildlife Refuge (both BEDF specimens). William Brace collected this on July 11, 2001 in wet woods on "Davis land" near the Assabet River (NEBC specimen). Cole Winstanley reported finding this frequent in the river meadows especially in the vicinity of the meeting of the Sudbury and Assabet Rivers, in French's Meadow, for example (2016). Voucher specimen in NEBC is Thoreau's collection. Link to image.

Carex lurida (GM8: same; TH: Carex tentaculata)

Eaton says this is very common and one of the most common species in North America. Specimen in Thoreau herbarium collected on July 1, 1859 at Clamshell meadow to which he adds "etc. etc. quite common." A couple other collections in Thoreau's herbarium are from Britton's path. The references in Thoreau's *Journal* to "Britton's path" all appear to be associated with Flint's Pond which is in Lincoln. There are two references to this species in Thoreau's *Journal*. Edward Hoar collected this on June 30 (no year) at Dennis's shore (NEBC specimen). Eaton collected this on June 22, 1930 at the shore of Goose Pond, and on June 20, 1960 in peaty ground on the northeast side of Bateman's Pond (both BEDF specimens). William Brace collected this in a marsh at Walden Pond on July 4, 1995 and on May 24, 1996 in a wet meadow by "Bovey pond and bk." [pond and brook at 206 Estabrook Road], identification of latter collection was confirmed by Carex specialist Anton Reznicek (latter specimen in NEBC). Cole Winstanley reported this to be very common, perhaps Concord's most common wetland Carex, finding it, for example, at Kaveski Farm, a seep on the south

slope of Annursnack Hill, and near Elm Brook on National Park land (2016). Voucher specimen in NEBC is Thoreau's collection of it. <u>Link to image</u>.

Carex merritt-fernaldii (GM8: same; TH: not scientifically described until 1922)
Eaton does not list this. No specimen in Thoreau herbarium from Concord. Cole Winstanley reported finding a few plants of this near Carex brevior near Newbury Field (2016). Voucher specimen in NEBC collected by William Brace on June 29, 1998 in dry woods in the musterfield at the Minuteman National Historic Park. Link to image.

Carex molesta (GM8: same; TH: species not scientifically described until 1931)
Eaton says this is very rare. No specimen in Thoreau herbarium. Presently this is known from only about ten counties in New England of which Middlesex County is the most northeasterly. Eaton collected this on June 20, 1959 in dry, gravelly soil at the edge of a cart-track at the foot of Annursnack Hill on the south side (NEBC specimen). Voucher specimen in NEBC collected by Eaton on June 17, 1934 from a mossy field in the rear of the Old Manse. Link to image.

Carex muehlenbergii var. muehlenbergii (GM8: same; TH: same, excluding var. enervis)
Eaton says this is rather common. Specimen in Thoreau herbarium collected on June 13,
1860 from Clamshell Hill. Thoreau's *Journal* of this date refers to finding this on the face of
that hill and goes on to say that it also grows probably at Lee's [Cliff] south slope and
Annursnack Hill (very common). There are three references to this in Thoreau's *Journal*.
Eaton collected this on June 25, 1932 in low woods at Conantum (BEDF specimen). William
Brace collected this on June 29, 1996 in dry Walden Pond woods (NEBC specimen). Cole
Winstanley found this in May 2016 on the same rock as Carex backii in the vicinity of
Bateman's Pond, with Carex brevior near the Fitchburg Railroad, at the Wastewater
Treatment Plant, at Annursnack Hill, near the cul-de-sac on Sandy Pond Road, and at
Willow Guzzle Reservation (2016). Voucher specimen in NEBC is Thoreau's collection of it.
Link to image.

Carex nigra (GM8: same; TH: Carex vulgaris)

Eaton says this is uncommon. Two specimens of this in Thoreau's herbarium now both mounted on the same sheet. Both were collected in Stow's meadow by the railroad, one collected on June 14, 1859 and the other on May 14, 1860. The collection location of the latter is determined by his Journal entry for that date. There are about four references to this in Thoreau's Journal. Jarvis reports this as Carex caespitosa on June 12, 1835 in meadows near F. Jarvis. Eaton collected this on June 11, 1932 in a meadow along Spencer Brook (NEBC and BEDF specimens). William Brace collected this in a wet meadow at "Keyes Field" (apparently in vicinity of what he called Keyes Pond just north of 49 Liberty Street) on July 5, 1995 and on May 24, 1996 in a wet meadow at "Bovey pond and bk." [at 206 Estabrook Road], and on May 29, 1998 in "Soutter mdw." [apparently a meadow on land at the corner of Route 2 and Sudbury Road], the identification of the 1996 collection confirmed by Carex specialist Anton Reznicek (latter two specimens in NEBC). Cole Winstanley reported finding this infrequent, for example, at Fox Castle Swamp in the Chamberlin Woods, in the Town Forest, at the Old Calf Pasture, near the Conantum public gardens, and near the Concord River across from Liberty Street (2016). Voucher specimen in NEBC is Thoreau's collection of it. Link to image.

Carex normalis (GM8: same; TH: not scientifically described until 1910)

Eaton says this is not common. No specimen in Thoreau herbarium. Eaton identified a specimen of this (in NEBC) as Carex normalis collected by him in 1934 (cited by him incorrectly as "1943" in his *Flora*). But this specimen has been re-identified by Carex specialist Lisa Standley as Carex straminea. William Brace collected this on July 4, 1996 in a

wet meadow on the west side of "Keyes bk." [north of 49 Liberty St.], identification confirmed by Carex specialist Anton Reznicek (NEBC specimen). Cole Winstanley reported finding this in a dry field at Kaveski Farm Conservation Land, in a wet field at Macone Farm Lane, and seepy, sterile woodland near Sandy Pond Road and Route 2, less than seven plants at each of these locations (2016). Voucher specimen in CONN collected by Eaton on June 25, 1969 along the border of a wagon rode on the side of Annursnack Hill. Link to image.

Carex novae-angliae (GM8: same; TH: same)

Eaton says this is rare. No specimen in Thoreau herbarium. The sole reference to this species in Thoreau's *Journal* is while he is traveling to the White Mountains in New Hampshire (July 5, 1858). Cole Winstanley reported seeing this under Fairhaven Cliffs on June 17, 2016. Voucher specimen in NEBC collected by Eaton on July 2, 1956 in swampy woods on the north side of Cambridge Turnpike opposite G.[eorge] Root's Ice Pond [Crosby Pond]. Link to image.

Carex oligosperma (GM8: same; TH: same)

Eaton says this is rare. Specimen in GH from Walter Deane's herbarium obtained from Edward Hoar and claimed to be collected by Thoreau was labeled originally as Carex oligosperma, but is presently identified as Carex bullata. A duplicate specimen in NEBC collected by Hoar with the same date and locality does not mention Thoreau. No references to this in Thoreau's Journal. The Flora of Middlesex County, Massachusets (Dame and Collins 1888) cites Walter Deane as calling this in Concord "abundant in cold bogs near the river." Cole Winstanley found this in 2015 in Bedford in a boggy wetland east of the Concord River on Great Meadows National Wildlife Refuge land, which is likely related to the historic Concord populations. Voucher specimen in NEBC collected by Walter Deane on July 22, 1886 in a cold bog. Link to image.

Carex pallescens (GM8: same, including var. neogaea; TH: same, including var. undulata) Eaton says this is common. Specimen in NEBC collected by Thoreau on June 17, 1858 at Hubbard's bath field identified by him as "ap.[parently] pallescens." There are three references to this in his Journal. On June 3, 1859 he notes finding it on Smith's shore (higher up bank) [Julius Michael Smith (1823-1912) at that time lived on Main Street with the Sudbury River behind his property.] On May 26, 1860 he refers to it on Channing's shore [Channing lived next to Julius M. Smith] and "common as in Clark's field from opposite my old house." Edward Hoar collected this on June 15 (no year) at Estabrook's edge of wood (NEBC specimen). Eaton collected this on June 25, 1933 at Clamshell Bluff (BEDF specimen), on June 16, 1963 at Annursnack Hill (University of New Hampshire specimen) and on June 20, 1960 on the east side of Bateman's Pond (Colgate University specimen). William Brace collected this in a wet meadow at Keyes Pond (just north of 49 Liberty Street) on May 29. 1995 and again at same location on June 4, 1996 with identification confirmed by Carex specialist Anton Reznicek. Cole Winstanley reported finding this to be frequent in many locations with few individual plants, for example, at a stream crossing a trail in the Bemis Woods, a grassy opening near Liberty Street, at Lowell Road causeway, and open, moist woods near Lexington Road (2016). Voucher specimen in NEBC collected by Edward Hoar on June 12 (no year) at roadside on Thoreau Street. Link to image.

CAREX PANICEA (GM8: same; TH: same)

Eaton says this is infrequent. Thoreau never refers to this species in his published *Journal*, but his labels on two collections mounted on the same sheet indicate that he considered it as one of three possibilities in his uncertain identification. His label for one of the collections is essentially given in expanded form in an unpublished passage in his *Journal* entry for May 28, 1860 which reads "Carex 59-60-or 61 [referring to Carex species numbers in Gray's

Manual of Botany: 59. Carex livida, 60. Carex panicea, 61. Carex tetanica] Collier meadow call it C. livida 7 or 8 rods from Stow ditch fence – several days at least." His label for this collection records the collection as May 28, 1860 with approximately the same information somewhat abbreviated. His label for the second collection reads "C. livida (?) (same as 59-60 or 61 of May 28) Collier's meadow June 4-60." The identification of these specimens was confirmed as Carex panicea by Carex specialist L.A. Standley in 1989. The meadow of Asa C. Collier was on a parcel of land he owned east of and adjacent to the Fitchburg Railroad and west of the Trillium Woods. This parcel is identified on the Walden Woods Webmap and retains essentially the same boundaries to the present day (2021). William Brace collected this in a wet meadow in "Keyes Field" (apparently in vicinity of what he called Keyes Pond just north of 49 Liberty Street) on July 4, 1995 and again in the same area on May 30, 1998 (the latter specimen in NEBC). Voucher specimen in NEBC is Thoreau's May 28, 1860 collection of it. Link to image.

Carex pellita (GM8: Carex lanuginosa - misapplied; TH: Carex lanuginosa - misapplied) Eaton says this is common. Specimen in Thoreau's herbarium was collected on June 3, 1859 at Smith's shore [Julius Michael Smith (1823-1912) at that tme lived on Main Street with the Sudbury River behind his property.] and is noted in his *Journal* (as on his label) as Carex lanuginosa on that date. There are about 6 references to this in Thoreau's *Journal*. In his *Journal* he notes finding this at Great Meadows on June 16 and July 7, 1859 and at Heywood Meadow on June 19, 1859. Edward Hoar collected this as Carex lanuginosa in Ball's meadow on June 14 (no year) (NEBC specimen). William Brace collected this on June 22, 1997 in a wet meadow, "Keyes mdw" [near "Keyes Pond" north of 49 Liberty Street], identification confirmed by Carex specialist Anton Reznicek (NEBC specimen). Cole Winstanley reported finding this to be rare locating what he believes probably to be this in two dry locations, not in its usual wetland habitat (2016). Voucher specimen In NEBC is Thoreau's specimen. Link to image.

Carex pensylvanica (GM8: same; TH: Carex pennsylvanica) EARLY SEDGE

Eaton says this is very common. Specimen in Thoreau's herbarium was collected on May 31, 1858 from Jarvis's wood lot ridge. The identity of the species was confirmed by Bernard Boivin and R. Jean in 1980. There are about two dozen references to this species in his *Journal*. Eaton collected this a few times, one of which was on June 15, 1936 in oak woods of his wood lot near Goose Pond (NEBC specimen). William Brace collected this on May 22, 1996 at Bovey Pond and Brook at 206 Eastabrook Road (NEBC specimen). This is probably Concord's most common Carex according to Cole Winstanley (2016). Voucher specimen in NEBC is Thoreau's collection of it. Link to image.

Carex prairea (GM8: same; TH: Carex teretiuscula var. major)

Eaton says this is very rare, not collected since Edward Hoar's collection. Specimen in Thoreau herbarium labeled as Carex teretiuscula with question mark was collected from Clamshell meadow on June 8, 1859. Identification as Carex prairea was made by M.L. Fernald and later confirmed by Carex specialist L.A. Standley in 1989. No references to this in Thoreau's *Journal*. Edward Hoar collected this on June 30 [no year] from "Wet meadow, head of pond, Fairy Land [Town Forest]" (NEBC specimen). Voucher in NEBC is Thoreau's collection of this. Link to image.

Carex projecta (GM8: same; TH: not scientifically described until 1908)
Eaton says this is uncommon. No specimen in Thoreau herbarium. Eaton collected this on June 16, 1957 in the Chamberlin Woods south of Bateman's Pond (BEDF specimen).
William Brace collected this on July 14, 2001 in a wet meadow or marshy area at Great

Meadows along a trail in the northern area (NEBC specimen). Cole Winstanley reported finding this uncommon, with a diffuse population in western Estabrook Woods and near Bateman's Pond, and a small population along the Reformatory Branch Trail (2016). Voucher specimen in NEBC collected by Eaton on June 24, 1959 on a partly shaded bank of the Assabet River. Link to image.

Carex pseudocyperus (GM8: same; TH: same)

Eaton lists this in an appendix as very unlikely in Concord. No specimen in Thoreau's herbarium or reference to it in his *Journal*. On June 30, 2016 Cole Winstanley found this scattered in the wetland that extends from Brister's Spring to the Cambridge Turnpike, including the spring and Fairyland Pond (NEBC specimen). Voucher specimen in NEBC collected by William Brace on July 8, 1997 at the shore of Fairyland Pond in the Town Forest, the identification confirmed by Carex specialist Anton Reznicek. Link to image.

Carex radiata (GM8: mostly "Carex rosea" misapplied; TH: Carex rosea var. radiata) Eaton does not list this in its current sense. No specimen in Thoreau herbarium or references to this in his *Journal*. Specimen in NEBC collected by Eaton and Ludlow Griscom on June 29, 1930 in wet, swampy woods near Kalmia Bog is either this or Carex appalachica. "Carex radiata" as described in GM8 would correspond to the modern Carex appalachica. Cole Winstanley's examination of Eaton's collection indicated the specimen to be Carex appalachica though filed under Carex radiata. Cole Winstanley reported this to be frequent to locally abundant. He found this in May 2016 along the trail parallel to the east bank of the Sudbury River below Fairhaven Hill, near the Old Manse, at the Old Calf Pasture, and elsewhere (2016). Cole Winstanley photographed this on June 9, 2016 behind the Concord Lumber business. Voucher specimen in NEBC collected by William Brace on June 6, 1996 in a wet meadow at "Bovey pond and bk." [at 206 Estabrook Road], identification confirmed by this author in 2017. Link to image.

Carex retroflexa (GM8: same; TH: same)

Eaton says this is rare. No specimen in Thoreau herbarium or reference to this in Thoreau's *Journal*. Eaton collected this at two stations on wooded outcroppings of the Marlboro Formation, a geologic band containing calcite in paper-thin layers to sweeten the soil where it is exposed, from Martha's Point to Lee's Bridge and westward to the vicinity of Garfield Road. Eaton collected this on June 27, 1959 on an outcropping in dry woods on the west side of Garfield Road (BEDF specimen). Cole Winstanley reported finding this on June 17, 2016 on a wooded slope west of Fairhaven Hill not far from a trail about a half mile north of being opposite Martha's Point. Voucher specimen in NEBC collected by Eaton on June 23, 1959 on a dry, rocky, wooded slope, near right bank of Sudbury River opposite Martha's Point. Link to image.

Carex rosea (GM8: Carex convoluta; TH: same (in part))

Eaton says this (as Carex convoluta) is common. Specimen in Thoreau's herbarium collected on June 9, 1860 at Flint's hedge under a hickory and referred to in his *Journal* entry for this date. His *Journal* entry for May 23, 1860 says he found it at "skunk hedge below Flint's." Eaton collected this on July 1, 1959 in rich, cool woods on the north side of Annursnack Hill (BEDF specimen), and on June 25, 1932 along a wooded path at Conantum (MASS specimen). Cole Winstanley reported this still to be common finding it, for example, at Annursnack Hill, southwest of White Pond, near the site of Acer saccharum at Conantum, near the Bemis Cliffs and other locations (2016). Voucher specimen in NEBC is Thoreau's collection of it. Link to image.

Carex scabrata (GM8: same; TH: same)

Eaton says this is uncommon. Specimen in Thoreau's herbarium was collected on June 16, 1859 at Well Meadow. The only reference in Thoreau's *Journal* to this species is on June 8, 1860 where he places it at Well Meadow. Edward Hoar collected this on July 21 (no year) at the head springs of Fairy Land Pond [Town Forest] (NEBC specimen). Cole Winstanley reported finding this also at Well Meadow on June 17, 2016, and near Brister's Spring (Edward Hoar's site) (2016). Voucher specimen in NEBC is Thoreau's collection of it. <u>Link to image</u>.

Carex scoparia var. scoparia (GM8: same; TH: same) BROOM SEDGE

Eaton says this is very common. Specimen in Thoreau herbarium was collected in a Lepidium campestre field on June 12, 1859. His Journal entry for this date mentions the field and his destination that afternoon as Gowing's Swamp, but does not mention the Carex. There are about 14 references to this in his *Journal*. On June 16, 1859 he refers to finding this species on the dry and hard bank by the river at Great Meadows. Eaton notes that it was common along the dyke at Great Meadows on August 2, 1959. Edward Hoar collected this on July 9 (no year) at Dennis's shore (NEBC specimen). Eaton collected this on August 28, 1921 at Meriam's Corner bog [Gowing's Swamp] in rich leaf mould at edge of bog (NEBC specimen), on June 20, 1959 in a wet brook-meadow at the foot of Annursnack Hill on the south side where abundant (Brown University specimen), and on July 10, 1961 at edge of river [Sudbury R.] meadow by the border of woods above Lee's Bridge (NEBC specimen). William Brace collected this in a wet meadow west of Keyes Pond just north of 49 Liberty Street on June 26, 1996 (NEBC specimen). Cole Winstanley reported this still to be very common, for example, behind the Concord District Court near Elm Brook on National Park land, and on a shoulder of Fairhaven Cliffs (2016). Voucher specimen in NEBC is Thoreau's collection of it. Link to image.

Carex seorsa (GM8: same; TH: not scientifically described until 1894)

Eaton says this is rare. No specimen in Thoreau herbarium. Eaton's June 10, 1961 specimen collected on the floating mat of the sphagnum bog south of Walden Pond [Heywood's Meadow] is missing. In May 2016 Cole Winstanley collected a patch of this in a swampy glade in the southeasternmost portion of the Chamberlin woods, identification confirmed by Dr. Lisa Standley. He also reported finding this dominant in a single sandy swamp in eastern Estabrook Woods near Hubbard Hill and a few plants in Thoreau's Yellow Birch Swamp and a single plant near the Thoreau mill Site (2016). Voucher specimen in NEBC collected by F.W. Hunnewell in a swamp (location unspecified) on May 30, 1915. Link to image.

Carex siccata (GM8: Carex foenea - misapplied; TH: same)

Eaton says this (as Carex foenea) is uncommon. No specimen in Thoreau herbarium. There are about four references to this in Thoreau's *Journal*. Thoreau found this on June 8, 1860 in the Fox Path Hollow by the Andromeda Ponds, on June 19, 1860 in grassy hollows at Ripple Lake, and on June 30, 1860 at Sedge Path. Cole Winstanley collected this on July 1, 2016 on a sandy slope near the intersection of the Fitchburg Railroad and the Acton town line and believes it to be rare (NEBC specimen). Voucher specimen in NEBC collected by Eaton (as Carex foenea) on June 29, 1930 on a dry, gravelly knoll near the New York, New Hampshire and Hartford Railroad in West Concord. Link to image.

CAREX SPICATA (GM8: same; TH: not included in the manuals used by Thoreau but would have been the "Carex muricata" of those manuals which misapplied that name.)

Eaton says this is scarce. No specimen in Thoreau herbarium or reference to this in his Journal. A specimen in GH collected by Edward Hoar on July 18 (no year) at "our end yard by

the fence" is not an occurrence in the wild. Eaton collected this on June 17, 1934 in a grassy field behind the Old Manse (BEDF specimen). William Brace collected this on May 30, 1998 in a meadow south of 49 Liberty Street (NEBC specimen). Voucher specimen in NEBC (and BEDF) collected by Eaton on June 16, 1963 in hillside woods formerly a pasture on Annursnack Hill, southeast side near the summit west of stone wall. Link to image. Carex stipata var. stipata (GM8: same; TH: same)

Eaton says this is common. Specimen in Thoreau herbarium was collected on May 14, 1860. His *Journal* entry for that date states that he found it at Stow's meadow by railroad [Fitchburg Railroad]. The identification is confirmed to be this species by Carex specialist L.A. Standley in 1989. There are about four references to this in Thoreau's *Journal*. Hoar collected this on June 12 [no year] in low land at roadside on Thoreau Street (NEBC specimen). Eaton collected this on June 11, 1932 in a wet meadow near Spencer Brook (BEDF specimen). William Brace collected this in a wet meadow west of Keyes Pond (just north of 49 Liberty Street) on June 4, 1995, and on June 22, 1996 on the north side of Keyes Brook at 49 Liberty Street (NEBC specimen). Cole Winstanley reported finding this still common, for example, in swampy glades in Chamberlin Woods, near the fen just south of Lexington Road, Well Meadow, near Elm Brook on National Park land, Azalea Brook, Kaveski Farm, and the Old Calf Pasture (2016). Voucher specimen in NEBC is Thoreau's collection of it. Link to image.

Carex straminea (GM8: same; TH: same, but probably including another later scientifically described species)

Eaton says this is uncommon. Specimen in Thoreau herbarium was collected on June 12, 1859 with no locality given. His *Journal* entry for that date says he visited Gowing's Swamp in the afternoon. Thoreau's only other *Journal* reference to this is outside of Concord. Eaton collected this on June 8, 1957 at edge of sedgy swamp on sandy fill along Harrington Road where abundant (BEDF specimen), and on June 6, 1961 at edge of river meadow at high water near mouth of Jenny Dugan Brook [Nut Meadow Brook] (MASS specimen). William Brace collected this in the Old Calf Pasture on June 4, 1995 and on June 21, 2001 (latter one in NEBC). Voucher specimen in NEBC collected by Eaton on June 11, 1932 at meadow along Spencer Brook. Link to image.

Carex stricta (GM8: same, including var. strictior; TH: same, including var. strictior) TUSSOCK SEDGE

Eaton says this is very common. Oddly, there is no specimen of this in Thoreau's herbarium although there are about 17 references to it in his *Journal*. Edward Hoar collected this on June 11 (no year) at Conantum (NEBC specimen). Eaton collected this on July 10, 1961 at Great Meadows along the middle dyke (NEBC specimen), on June 10, 1961 at the west end of the bog [Heywood's Meadow] south of Walden Pond (NEBC specimen), on June 5, 1921 in a wet meadow along Jenny Dugan Brook (BEDF specimen), and on June 29, 1959 on a sloping riverbank in peaty gravel at the edge of water on the left bank of the Sudbury River a few yards below Lee's Bridge (BEDF specimen). William Brace collected this in the Old Calf Pasture on June 1, 1995 and on June 24, 2001, and on May 31, 1998 at Bovey Pond at 206 Estabrook Road (the latter two specimens in NEBC). Voucher specimen in NEBC collected by Edward Hoar on May 12 and 25, 1858 (locale within Concord not given). Link to image.

Carex swanii (GM8: same; TH: not scientifically described until 1910)
Eaton says this is common. No specimen in Thoreau herbarium. Edward Hoar collected this on July 12 (no year) in Stow's meadow on a bushy knoll west of Thoreau Street (NEBC specimen). Eaton collected this on June 25, 1932 along a wooded path at Conantum (BEDF

specimen). Laurence Richardson collected this on July 8, 1969 along Estabrook Road (BEDF specimen). William Brace collected this in dry woods along the railroad at Walden Pond on August 25, 1995, and on June 26, 1996 in dry woods in the southern area of Great Meadows (NEBC specimen). Cole Winstanley reported finding this very common, for example, at Lowell Road causeway and elsewhere (2016). Voucher specimen in MASS collected by Edward Jarvis on 29, 1835 at [Fair] Haven Hill. Link to image.

Carex tenera var. tenera (GM8: same; TH: Carex festucacea var. tenera)

Eaton says this is common. No specimen in Thoreau's herbarium or *Journal* references that can be determined as this species. Cole Winstanley reported finding this infrequent, for example, near Musketaquid Road, at the southeast corner of Barrett's Mill Farm, and on the bank of Fairhaven Bay (2016). Voucher specimen in NEBC collected by Eaton on June 25, 1932 on a dry wood road at Conantum. Link to image.

Carex tribuloides var. tribuloides (GM8: same; TH: Carex lagopodioides)

Eaton says this is rather common. There is no specimen in Thoreau's herbarium, but his 
Journal entry of June 21, 1859 reports finding it at the little pool near the Assabet River 
above his bathing place there. His only other entry for this (June 9, 1860) mentions it at 
Flint's hedge. These most likely refer to this species, but an actual specimen would be 
required for positive identification for this species which is in the difficult Ovales section. 
Eaton collected this on June 24, 1959 on a river bank at Great Meadows (NEBC specimen). 
William Brace collected this on July 12, 1996 in a wet meadow at "Bovey pond and bk." [at 206 Estabrook Road], identification by Carex specialist A. Reznicek (NEBC specimen). Cole 
Winstanley reported this to be abundant in the Goose Pond area, the White Pond area, and 
in the river meadows such as French's Meadow and Great Meadows (2016). Voucher 
specimen in NEBC collected by Walter Deane on July 4, 1887 in low ground at Great 
Meadows. Link to image.

Carex trisperma (GM8: same; TH: same)

Eaton says there are specimens from four stations, calling it not common and citing five stations in his unpublished notes. A specimen in Thoreau's herbarium was collected from Owl Swamp on June 11, 1859. There are three references to this in his Journal but none for occurrence in Concord. Edward Hoar collected this on July 8 [no year] in wet, sphagnous woods between Conantum and Nine Acre bridge (NEBC specimen). Eaton collected it on July 2, 1960 at Gowing's Swamp deeply rooted in sphagnum moss (NEBC specimen), and on the same date in the wet, sphagnous woods at the headwaters of Jenny Dugan Brook (BEDF specimen), on the same date in a maple swamp in the Kalmia Woods (NEBC specimen), and on June 29, 1930 in wet woods near the Kalmia Bog (BEDF specimen). This last station might be where Edward Hoar collected it. William Brace collected this on July 8, 1997 in a wet meadow by Fairyland Pond in the Town Forest. Cole Winstanley collected this on June 10, 2016 in the sphagnum bog at the west end of Ministerial Swamp (NEBC specimen). He believed this to be common in the appropriate habitat, finding it also in a 35 acre swamp near the W.R. Grace superfund site, in the 40 acres of the Carlisle Swamp in the northern part of the Estabrook Woods, and along the entire length of the Ministerial Swamp (2016). Voucher in NEBC is Thoreau's collection of this. Link to image.

Carex umbellata (GM8: same; TH: same)

## SAND SEDGE

Eaton says this is uncommon. A specimen in Thoreau's herbarium is undated and without locality. Thoreau's original label is missing. The identification of the specimen was confirmed by Carex specialist L.A. Standley in 1989. The sole reference specifically to this species in Thoreau's *Journal* is on April 11, 1860 where he reports it at the Cliffs, apparently out

[blossoming] a few days, the highest plant only two inches. Cole Winstanley reported finding this in beech-pine woods between Lexington Road and Cambridge Turnpike near Palumbo Farm (2016). Thoreau's collection in NEBC is accepted as the voucher specimen. Link to image.

Carex utriculata (GM8: rostrata var. utriculata; TH: Carex ampullacea var. utriculata) Eaton says this is common. Reference by Eaton to Carex rostrata var. rostrata is actually to Carex utriculata since the former species does not occur in Massachusetts. Specimens in Thoreau herbarium collected on July 7, 1859 at Great Meadows next to Holbrook's meadow (referred to in Thoreau's *Journal* on this date and in an unpublished passage the next day, the only references to it), and collected on June 16, 1859 at Great Meadows not identified by him (both NEBC specimens). The latter specimen was identified by L.A. Standley in 1989 as Carex rostrata at a time when she considered it to include Carex utriculata. Eaton collected this on June 12, 1932 in a boggy meadow at G.F. Root's farm [Intervale Farm on Sandy Pond Road] (BEDF specimen, duplicate in NEBC). Cole Winstanley reported finding this to be infrequent, for example, in the circumneutral fen in Estabrook Woods, in the acid fen near Lexington Road, at the Old Calf Pasture, and in the other river meadows (2016). Voucher specimen in NEBC is Thoreau's collection on July 7, 1859. Link to image.

Carex vesicaria (GM8: same, including var. jejuna and var. monile; TH: same + Carex monile) Eaton says this is rather common. There are five specimens of this in Thoreau's herbarium all under the name Carex monile. One was collected on June 16, 1859 "of river meadows." His Journal entry for that date places it in the wet parts of Great Meadows. Another specimen unnamed by Thoreau but confirmed as Carex vesicaria by Carex specialist L.A. Standley in 1989 was collected on June 20 (no year given) by New Stone Bridge in meadow (NEBC and MASS specimens). On June 20, 1858 he refers in his *Journal* to the sedge and this bridge. Another Thoreau specimen was collected June 14, 1859 at Stow's meadow (by the railroad). There are about 4 references to this in his Journal. Edward Hoar collected this on June 11 (no year) in a river meadow at Conantum (NEBC specimen). Eaton collected this on July 10, 1961 in a river meadow [Sudbury River] below Lee's Bridge and above the Nashawtuc Country Club (NEBC specimen). William Brace collected this at the Old Calf Pasture on May 21, 1995 and May 29, 1996 (NEBC specimen), and again on July 4, 1998 in wet woods by "Bovey Brook" [along boundary of 206 Estabrook Road] (NEBC specimen). Cole Winstanley reported finding this to be infrequent in the floodplain of streams, such as in the vicinity of the meeting of the Assabet and Sudbury Rivers, near Liberty Street and the Concord River, and behind the Department of Public Works near the Sudbury River (2016). Voucher specimen in NEBC is Thoreau's collection of June 20 [1858]. Link to image.

Carex vestita (GM8: same; TH: same)

#### STIFF SEDGE

Eaton says this is common. No specimen in Thoreau herbarium. Thoreau refers to this species only once in his *Journal*, on June 19, 1860, where he says there is some of it in the cold hollows at Ripple Lake. Eaton collected this on July 9, 1933 in sterile oak-scrub near White Pond, and on July 31, 1957 on a dry railroad embankment of the west side of White Pond (both BEDF specimens). William Brace collected this on June 29, 1996 in dry woods in the Walden Woods (NEBC specimen). Cole Winstanley reported finding this to be scarce locating it in five places with only one or two fertile stems, for example, on June 17, 2016 in woods at the edge of a bog across the railroad tracks from Heywood's Meadow, and near railroad tracks and the Sudbury town line (2016). Voucher specimen in NEBC was collected by Edward Hoar on June 12 (no year) on the north shore of S.[am] Hoar's pond [Fairyland Pond in Town Forest]. Link to image.

Carex virescens (GM8: same: TH: same)

Eaton says this is frequent. There is no specimen in Thoreau's herbarium or reference to this in his *Journal*. Cole Winstanley reported finding this in a wooded swamp in the Chamberlin Woods, and in talus under Fairhaven Cliffs (201). Voucher specimen in NEBC collected by Eaton on June 23, 1959 along a dry wood road on the east side of Bateman's Pond. <u>Link to image</u>.

Carex vulpinoidea (GM8: same; TH: same)

Eaton says this is common. There is no specimen in Thoreau's herbarium or reference to this in his *Journal*. William Brace collected this in the Old Calf Pasture on June 10, 1995 (NEBC specimen), and at Keyes Pond (just north of 49 Liberty Street) on June 12. 1995. Doug Goldman collected this on July 4, 2009 in a damp meadow about one tenth of a mile east of the intersection of Sudbury Road and Powder Mills Road on the Willow Guzzle Reservation, and on the same date in a damp meadow about two tenths of a mile ENE of the intersection of Lexington Road and the Old Bedford Road (both GH specimens). Cole Winstanley reported finding this common in most of Concord's full-sun wet meadows, for example, near Macone Farm Lane and near Elm Brook on National Park land (2016). Voucher specimen in NEBC collected by Edward Hoar on July 7 (no year) along a brookside at Miss Prichard's. Link to image.

Cladium mariscoides (GM8: same: TH: same)

Eaton says this is rare with a single station destroyed around 1963. Thoreau's herbarium only has a specimen collected at Flint's Pond in Lincoln, and all his *Journal* references are to the Flint's Pond occurrence. Laurence Richardson collected this on February 7, 1963 at the site where Eaton found it (BEDF specimen). Voucher specimen in NEBC (and in BEDF) collected by Eaton on November 1, 1958 from the peaty bottom of an exsiccated pond-hole (where it was the dominant sedge) at the foot of Annursnack Hill east of Old College Road. Link to image.

Cyperus bipartitus (GM8: Cyperus rivularis; TH: Cyperus diandrus var. castaneus)
Eaton says this is uncommon. A specimen in Thoreau's herbarium has been identified as this species (as Cyperus rivularis) by M.L. Fernald who made the NEBC label for it. Thoreau's original label is missing, but Edward Hoar's transcription of it reads "Cyperus diandrus? Hub.[bard's] grove swamp ap.[parently] in prime Sep.[tember] 11." This agrees with Thoreau's unpublished passage at the end of his *Journal* entry for September 11, 1859 in which he describes what he says is apparently Cyperus diandrus in the vicinity of Hubbard's grove. There are two references to this in Thoreau's published *Journal*. Eaton collected this on September 10, 1932 on a gravelly shore of Bateman's Pond (BEDF specimen), and on August 27, 1967 at the border of a cold, flowing brook on the property of the Concord Country Club at the 1<sup>st</sup> hole [possibly Jenny Dugan Brook] (NEBC specimen). Voucher specimen in NEBC is Thoreau's collection of it. Link to image.

Cyperus dentatus (GM8: same; TH: same)
BULBLET SEDGE

Eaton says this is common. Specimen of this in Thoreau's herbarium is missing his label, but Edward Hoar's transcription of it says that he collected it at pout's nest on August 31, 1858. Thoreau's *Journal* entry for this date refers to this species at Pout's Nest [Wyman Meadow] at Walden Pond. There are about four references to this in Thoreau's *Journal*. On August 25, 1858 he refers to this at Solidago rigida Bank, and on July 29, 1859 he notes it in bloom on hard sandy parts of meadows in the vicinity of Fair Haven Hill shore. Laurence E. Richardson collected this at "Dryad Pond" [Fairyland Pond?] on October 6. 1965 (BEDF specimen). Eaton collected this on September 15, 1928 at the shore of Goose Pond on his

wood lot (BEDF specimen). Voucher specimen in NEBC is Thoreau's collection of it. <u>Link to image</u>.

Cyperus diandrus (GM8: same; TH: same, excluding var. castaneus)

Eaton says this is uncommon. There is no specimen in Thoreau's herbarium and his *Journal* references appear to be to the closely related Cyperus bipartitus. Cole Winstanley reported this to be abundant along the center dike at Great Meadows in Aug. 2015. Voucher specimen in NEBC collected by Eaton on Sept. 16, 1931 on the sandy riverbank of French's Meadow. Link to image.

Cyperus erythrorhizos (GM8: same; TH: same)

Eaton says this is rare. There is no specimen in Thoreau's herbarium or reference to it in his *Journal*. Eaton collected this on August 16, 1959 near the spillway of the lower dyke at Great Meadows where it was plentiful (NEBC and BEDF specimens). Voucher specimen in NEBC collected by Eaton at a sandy, pond shore near Thoreau's Cove at Walden Pond on September 22, 1957. Link to image.

Cyperus esculentus var. leptostachyus (GM8: same, without the variety name; TH: Cyperus phymatodes)

## YELLOW NUT-GRASS

Eaton says this is common, often a troublesome weed of cultivated ground and lawns. No specimen in Thoreau's herbarium. There are about three references to this in Thoreau's *Journal*. On August 21, 1858 he refers to this in the toad pool by Cyrus Hubbard's corner. Mary C. Rodman collected this on August 24, 1903 at Love Lane (BEDF specimen). Eaton collected this on August 17, 1957 at the rocky river shore at Martha's Point, and on September 12, 1931 in alluvial soil of the Sudbury River (both BEDF specimens). Voucher specimen in NEBC collected F.S. Collins on September 11, 1886. Link to image.

Cyperus lupulinus subsp. macilentus (GM8: Cyperus filiculmis var. macilentus; TH: Cyperus filiculmis; var. macilentus was not scientifically described until 1906, would have been included under Cyperus filiculmis)

Eaton says this is common, often a weed of railroad ballast and road shoulders. A specimen is in Thoreau's herbarium with original label that reads "Cyperus filiculmis Aug. 24 Clam Shell field." Thoreau's *Journal* entries for this date for 1858-1860, the years of his focus on sedges, do not clearly indicate which year. However, he refers to this species on August 25, 1858, and on the same day mentions finding Cyperus strigosus under Clamshell Hill. There are about three references to this in Thoreau's *Journal*. Jarvis notes this on July 10, 1835 as Cyperus mariscoides near Caesar's, and collected it on July 14, 1835 in a sandy field in Concord, likely the same area as in his note (MASS specimen). Edward Hoar collected this on July 22, 1858 on the gravelly track of the Fitchburg Railroad (NEBC specimen). William Brace collected this in on October 2, 1999 in a cornfield near the sewage plant, probably the field that is now the C. Courtney Comeau conservation land by Great Meadow Road, which happens to be the area noted by Jarvis (NEBC specimen). Voucher specimen in NEBC is Thoreau's collection of it. Link to image.

Cyperus odoratus (GM8: same + C. engelmannii + C. ferruginescens; TH: Cyperus engelmannii) Eaton does not list this. There is no specimen in Thoreau's herbarium or reference to it in his *Journal*. William Brace collected this on September 24, 2000 at the dyke by the east pond at Great Meadows in the marsh and evidently from the same locale on Sept. 11, 1996 (both specimens in NEBC). He identified these as Cyperus engelmannii which is now included in Cyperus odoratus. This author confirmed the identifications in 2017. Voucher specimen at MASS collected by Matthew G. Hickler on September 9, 2002 on an exposed, sandy strand of White Pond. Link to image.

Cyperus strigosus (GM8: same; TH: same)

Eaton says this is common, often weedy. A specimen in Thoreau's herbarium with original label missing but transcribed by Edward Hoar as "Cyperus strigosus Aug. 24 under Clam Shell." Thoreau's *Journal* entries for this date for 1858-1860, the years of his focus on sedges, do not clearly indicate which year. However, he refers to this species on August 25, 1858 "under Clamshell Hill." No other *Journal* entries refer to this at a particular location. There are about three references to this in Thoreau's *Journal*. Jarvis collected this on July 31, 1835 in meadows near William Munroe's (MASS specimen). Eaton collected this on September 11, 1931 on a muddy riverbank of the Sudbury River, and on September 5, 1957 on a sandy shore of Walden Pond (both BEDF specimens). R.L. Petersohn collected this on July 31, 1963 in sandy soil along path at the edge of the Concord River at Great Meadows National Wildlife Refuge (BEDF specimen). William Brace collected this in the musterfield at Minuteman National Historic Park on September 16, 2001 (NEBC specimen). Voucher specimen in NEBC is Thoreau's collection of it. Link to image.

Dulichium arundinaceum var. arundinaceum (GM8: same; TH: Dulichium spathaceum) THREE-WAY SEDGE

Eaton says this is frequent. Hosmer notes it as common. Specimen in Thoreau's herbarium lacks a date or location. There are about five references to this in Thoreau's *Journal*. On August 16, 1854 and July 19, 1860 notes this along the Sudbury River. On July 7, 1859 he mentions it at Great Meadows. On July 28, 1860 he refers to it along the Assabet River. Jarvis notes this on June 17, 1835 in Merrick's meadow [which included today's Old Calf Pasture]. Eaton collected this on July 23, 1922 in shallow water in a glacial pot-hole at the Concord Country Club (BEDF specimen). Cole Winstanley found this common in 2015 – Hugh Carghill bog [Boaz's Meadow], Mink Pond in the Estabrook Woods, the swamp where Thoreau found Atlantic White Cedar, the Hallenback Concord Land Conservation Trust land, Well Meadow, Macone Farm Lane, Newbury Field (west of Lowell Road), a bog across the railroad track from Heywood's Meadow, and a boggy spot near Walden Pond. Voucher specimen in NEBC collected by Edward Hoar on September 1, 1858. Link to image.

Eleocharis acicularis (GM8: same; TH: same)

Eaton says this is common. No specimen in Thoreau's herbarium. There are about six references to this in his *Journal*. On July 3, 1859 he notes this at water's edge by Hubbard's Grove bridge path on. On August 3, 1859 he probably refers to it at Great Meadows where he describes lying on a dense, green, dry bed of this amidst cat-tails (flags) and pickerelweed [Pontederia]. On July 17, 1860 he refers to it at Walden Pond. Jarvis collected this on July 4, 1835 "near [Fair] Haven Pond" (MASS specimen). Eaton collected this on September 21, 1929 on a wet, sandy shore of White Pond (NEBC specimen). Voucher specimen in NEBC (and in BEDF) collected by Eaton on July 21, 1929 at sand bar in Sudbury River at mouth of Jenny Dugan Brook. Link to image.

Eleocharis elliptica (GM8: same; TH: Eleocharis tenuis (in part))

Eaton says this is uncommon. There is no specimen in Thoreau's herbarium. There are about eight references in Thoreau's *Journal* to this or Eleocharis tenuis, but the latter is the more common species. Walter Deane collected this on July 20, 1886 in a ditch with no locale within Concord given (MASS specimen). Voucher specimen in NEBC collected by Eaton on June 5, 1921 in wet maple woods near source of Jenny Dugan Brook near sphagnum bog north of White Pond. <u>Link to image</u>.

Eleocharis flavescens var. olivacea (GM8: Eleocharis olivacea; TH: Eleocharis olivacea) GREEN SPIKERUSH

Eaton says this occurs at only one station where it is abundant. There is no specimen in Thoreau's herbarium or reference to this in his *Journal*. Voucher specimen in NEBC (and in BEDF) collected by Eaton on September 20, 1961 on the floor of an outdoor skating rink of Middlesex School at the north end of Bateman's Pond in shallow pools in exposed, wet peaty sand. Link to image.

Eleocharis obtusa (GM8: same, including var. jejuna; TH: same)

Eaton says this is common. There is no specimen in Thoreau's herbarium. There are two references to this in Thoreau's *Journal*. On August 30, 1858 he notes finding it at Dodd's shore and at Pratt's Pool. [Jonathan Moore Dodd (1801-1885) lived on Main Street with the Sudbury River at the back of his property.] On July 3, 1859 he mentions finding it in prime at water's edge by Hubbard's Grove bridge path. E.F. Williams collected this on October 24, 1897 in a bog south of Annursnack Hill [very likely Painted Cup Meadow] (GH specimen). David Potter collected this on September 17, 1930 on the shore of Goose Pond (GH specimen). Eaton collected this on September 20, 1961 at the same site at Bateman's Pond as his collection of Eleocharis flavescens var. olivacea and intermixed with it (BEDF specimen). Albert E. Hester collected this on October 9, 1963 in a pond at Great Meadows (MASS specimen). William Brace collected this on September 27, 2001 in marsh at a dike at Great Meadows, identified by him as Eleocharis intermedia but identified by this author as Eleocharis obtusa (NEBC specimen). Voucher specimen in NEBC collected by Edward Hoar on September 1, 1858 at the wet border of a pond-hole [very likely Pratt's Pool where Thoreau records finding it two days before]. Link to image.

Eleocharis palustris (GM8: same, including var. major + Eleocharis smallii; TH: same) Eaton says this is common. Specimen in Thoreau's herbarium is from R.W.E.[merson] meadow on May 30, 1859. Thoreau's *Journal* notes this occurrence on this date. There are about eight references to this in his *Journal*. On June 14, 1859 he notes it in Stow's meadow by the railroad, and on June 16, 1859 at Great Meadows. Jarvis collected this (as Scirpus palustris) on June 17, 1835 at Merrick's meadow [which included today's Old Calf Pasture] (MASS specimen). Eaton collected this on August 2, 1930 in a wet grassy pond-hole near Goose Pond (NEBC specimen mounted with Thoreau's specimen), and on July 9, 1961 in shallow water at the edge of the middle dyke at Great Meadows (BEDF specimen). Laurence E. Richardson collected this on July 12, 1963 at the Assabet River (BEDF specimen). Voucher in NEBC is Thoreau's collection of it. Link to image.

Eleocharis robbinsii (GM8: same; TH: same)

Eaton says this is rare. There is no specimen in Thoreau's herbarium or reference to it in his *Journal*. Voucher specimen in NEBC collected by Eaton in September 10, 1932 in shallow water of Bateman's Pond. Link to image.

Eleocharis tenuis var. tenuis (GM8: same; TH: same (in part), excluding Eleocharis elliptica) Eaton says this is rather common. Thoreau collected this on May 31, 1859 at Dodd's shore. [Jonathan Moore Dodd (1801-1885) lived on Main Street with the Sudbury River at the back of his property.] There are about eight references in Thoreau's *Journal* to this or Eleocharis elliptica, but Elliptica tenuis is the more common species. Walter Deane on July 14, 1886 in low ground by a river (NEBC specimen). Eaton collected this on July 27, 1956 near Mill Brook (NEBC specimen), and on July 16, 1961 in moist, peaty sand where topsoil had been removed in French's Meadow near the Sudbury River (BEDF specimen). Voucher specimen in NEBC is Thoreau's collection of it. Link to image.

Eriophorum tenellum (GM8: same; TH: Eriophorum gracile var. paucinervium)

Eaton says this is frequent, but scarce. Specimen in Thoreau's herbarium has been identified as this species by M.L. Fernald on the NEBC label. Thoreau's original label is missing but has been transcribed by Edward Hoar as "Eriophorum gracile ap.[parently] in prime or past Abel Hosmer's meadow N.E. Eddy bridge July 12 '59." Thoreau's *Journal* notes finding this species on this day. There are about six references to this in Thoreau's *Journal*. Laurence E. Richardson collected this on June 28, 1960 in the Walden Bog [Heywood's Meadow] (BEDF specimen). Eaton collected this with Charles Schweinfurth on July 16, 1967 (identified by them as Eriophorum viridicarinatum but identified later by H.E. Ahles as Eriophorum tenellum) in the sphagnum bog southeast of Walden Pond [Heywood's Meadow] (NEBC specimen). Voucher specimen in NEBC is Thoreau's collection of it. Link to image.

Eriophorum vaginatum (GM8: Eriophorum spissum; TH: same) TUSSUCK COTTON-GRASS

Eaton says this is local and scarce, confined to about four sphagnum bogs. These would be White Pond Bog, Gowing's Swamp, Ledum Swamp and one other. Specimen in Thoreau's herbarium that is undated with the note "Dakins Swamp" is of uncertain location, but most likely what Thoreau later called Owl Nest Swamp. Several Dakins lived near the intersection of Lowell Road and Barrett's Mill Road in Thoreau's time. Dakin's Brook runs from Owl Nest Swamp near this area southwest of Bateman's Pond into the Assabet River. There are about 15 references to this species in Thoreau's *Journal*. On May 28, 1858 he notes Edward Hoar finding this at Ledum Swamp. Later references to Thoreau seeing it in Concord are all at this bog. Eaton collected this on May 13, 1923 in the floating sphagnum bog [White Pond Bog just north of that pond] near the source of Jenny Dugan Brook (BEDF specimen). At least one other bog unknown to Eaton (and Thoreau) on the property of the former Nuclear Metals company had/has Eriophorum that might be this species. Cole Winstanley reported finding this in the small bog across the railroad tracks from Heywood's Meadow in 2015. Voucher specimen in NEBC collected by Edward Hoar on May 27, 1858 at the swamp with Ledum near Nine acre corner bridge [Hubbard's Bridge], the swamp referred to in Thoreau's Journal the following day. Link to image.

Eriophorum virginicum (GM8: same; TH: same) TAWNY COTTON-GRASS

Eaton says this is frequent. Specimen in Thoreau's herbarium (identified by M.L. Fernald) labeled by him "Eriophorum polystachyon var angustifolium?? Violet sorrel meadow Sep 1 '58" matches a *Journal* reference on September 1, 1858 with the same questioning and mentions it being pressed for a specimen. The locale is a Concord River meadow beneath Punkatasset Hill. There are about eight references to this in Thoreau's *Journal*. On Oct. 14, 1852 he notes finding this at Beck Stow's Swamp -- a thousand white wooly heads. On August 23, 1854 he mentions seeing it at Gowing's Swamp using the name rusty cottongrass. On July 26, 1860 he refers to it as abundant at Hubbard's Close toward east part. Edwin B. Bartram collected this on October 4, 1909 along the Concord River (GH specimen). Eaton collected this on August 28, 1921 in Miriam's Corner Bog [Gowing's Swamp] (BEDF specimen). Voucher specimen in NEBC is Thoreau's collection of it. Link to image.

Eriophorum viridicarinatum (GM8: same; TH: Eriophorum polystachyon var. latifolium) Eaton says this is uncommon. Specimen in Thoreau's herbarium collected on June 19, 1859 at Pleasant Meadow is in Lincoln. In his *Journal* for this date Thoreau refers to it as being at Pleasant Meadow and Well Meadow, the latter meadow is mostly in Concord. There are about seven references to this in Thoreau's *Journal*. Eaton collected this on June 29, 1930 in the bog north of White Pond (BEDF specimen). Voucher specimen in MASS collected by

Eaton on June 5, 1921 in a wet, sphagnous meadow along Jenny Dugan Brook. <u>Link to image</u>.

Fimbristylis autumnalis (GM8: same; TH: same)

Eaton says this is uncommon. Specimen in Thoreau's herbarium was collected on August 30, 1858 on the Ammannia shore, referring to the river shore where he found the very rare Rotala ramosior. His *Journal* entry for this date adds that he found this sedge also on bare spots in meadows generally and on this date in prime. This is his only *Journal* reference to this species. Eaton collected this on September 22, 1957 on a sandy shore of Walden Pond, and on September 2, 1930 on a muddy shore of Goose Pond (both BEDF specimens). D.E. Boufford and others collected this on September 21, 2012 on the sandy shore of a cove on the northwest side of Walden Pond (Arnold Arboretum specimen). Voucher specimen in NEBC is Thoreau's collection of it. Link to image.

Rhynchospora alba (GM8: same; TH: same)

Eaton says this is uncommon. No specimen in Thoreau's herbarium. There are two references to it in Thoreau's *Journal*, referring to it at Great Meadows on July 26, 1859 and at the east part of Hubbard's Close on July 26, 1860. Eaton collected this on August 28 & 29, 1921 in cold sphagnum moss at Merriam's Corner Bog [Gowing's Swamp] (BEDF specimens). Cole Winstanley photographed this in 2015 at Mink Pond in the Estabrook Woods and in the Hugh Carghill Bog [Boaz's Meadow] on the western side of the Estabrook Woods. Voucher specimen in NEBC collected by Edward Hoar in September 1879 at "Nusneck" [Annursnack Hill]. Link to image.

Rhynchospora capitellata (GM8: same; TH: Rhynchospora glomerata (in part)) Eaton says this is rather common. No specimen in Thoreau's herbarium or reference to this in his *Journal*. R.L. Petersohn collected this on July 31, 1963 along a sandy path by the Concord River at Great Meadows (BEDF specimen). Laurence Richardson collected this on October 6, 1965 at Goose Pond (BEDF specimen). Cole Winstanley photographed vigorous colonies of this at a sandy, boggy pond off of Macone Farm Lane on Aug. 9, 2015. Voucher specimen in NEBC collected by Edward Hoar with no date at "Cattle Show" [mostly likely the site of the show after 1853 which was behind the Concord Depot on the east bank of the Sudbury River]. Link to image.

Rhynchospora fusca (GM8: same; TH: same)

Eaton says this is apparently rare. Two specimens in Thoreau's herbarium are now mounted on the same sheet. One was collected on August 31, 1858 at Pout's Nest [Wyman Meadow] at Walden Pond. His *Journal* entry for this date mentions other sedges at this location but not this species. The other specimen was collected on June 15, 1859 at "Hubbard's denuded Calopogon shore on marsh side." His *Journal* entry for this date mentions a sedge at a shore near Hubbard's bath swamp wood. There is only one other *Journal* reference to this species. Eaton collected this on August 23, 1957 with Cladium mariscoides at the exsiccated, shallow Grassy Pond on the east side of Annursnack Hill (BEDF specimen). Voucher specimen in NEBC is Thoreau's 1859 collection of it. Link to image.

Schoenoplectiella purshianus var. purshianus (GM8: Scirpus purshianus; TH: not scientifically described until 1942; would have been called Scirpus debilis by Thoreau)

Eaton says this is rather common. No specimen in Thoreau herbarium. Thoreau's *Journal* notes this only twice (under the name Scirpus debilis) -- at Pout's Nest [Wyman Meadow] at Walden Pond on August 31, 1858 and on July 20, 1860. F.W. Hunnewell, the 2<sup>nd</sup>, collected this on September 22, 1917 on the muddy shore of White Pond (NEBC specimen). Eaton collected this on September 17, 1930 at Goose Pond (BEDF specimen), while David Potter

also collected it on that same day and place (GH specimen), and Laurence E. Richardson collected it there on September 6, 1967 (BEDF specimen). Voucher specimen in NEBC (and in GH) collected by Charles Perkins on October 1, 1880 at the shore of Walden Pond. <u>Link to image</u>.

Schoenoplectus subterminalis (GM8: Scirpus subterminalis; TH: Scirpus subterminalis) WATER BULRUSH

Eaton says this is abundant in the Assabet River, still common in 1974. Specimen in Thoreau's herbarium was collected September 15 at Pout's Nest Wyman Meadow ar Walden Pond]. Thoreau's *Journal* entry for September 15, 1858 notes this species at this location. There are about five references to this in Thoreau's *Journal*. On July 19, 1859 Thoreau notes this along the Assabet River, off Hoar's, and off Cheney's [residence of attorney John Milton Cheney (1797-1869) on the north side of Main Street by the Sudbury River]. On July 28, 1860 Thoreau mentions this in the Assabet at island above Dove Rock. Edward Hoar collected this on August 8 [no year] submerged in 5 feet of water in the river opposite Judge Hoar's [his father] (NEBC specimen). Walter Deane collected it on August 4, 1886 in the north branch of the Concord River [Assabet River] (NEBC specimen). Eaton collected it on June 22, 1930 also in the Assabet River on a submerged bar in half a meter of water (BEDF specimen). Voucher specimen in NEBC is Thoreau's collection of it. Link to image.

Schoenoplectus tabernaemontani (GM8: Scirpus validus, including var. creber; TH: Scirpus lacustris (in part), but all uses of this name by Thoreau would be Schoenoplectus taebernaemontani)

## **GREAT BULRUSH**

Eaton says this is common. Specimen in Thoreau herbarium is without date or locality. None of his 14 *Journal* references mention pressing this, and one of the places he saw it most often was in the Sudbury meadows, not in Concord. Jarvis collected this on June 17, 1835 in the meadow back of Dr. Ripley's (MASS specimen). Eaton collected this on September 26, 1967 at the muddy shore of the Sudbury River in shallow water near the Nashawtuc Bridge (NEBC specimen), and on October 9, 1966 in shallow water at the middle dyke of Great Meadows (BEDF specimen). Voucher specimen in NEBC collected by Edward Hoar in August 1858 in "Shallow water – River." <u>Link to image.</u>

Schoenoplectus torreyi (GM8: Scirpus torreyi; TH: Scirpus torreyi)

Eaton says this is locally abundant at a single station in years of low water. No specimen in Thoreau herbarium or reference to this in his *Journal*. Charles Weatherby and others collected this on August 22, 1932 at the muddy shore of an exsiccated shallow pond [most likely Goose Pond] (NEBC, GH, CONN, University of New Hampshire and Brown University specimens). Laurence E. Richardson collected this on October 6, 1965 at Goose Pond (BEDF specimen). Voucher specimen in NEBC collected by Eaton on August 2, 1930 at the muddy shore of Goose Pond. Link to image.

Scirpus atrocinctus (GM8: same; TH: not scientifically described until 1899, Scirpus eriophorum (in part))

Eaton says this is uncommon. Undated specimen is in GH in Thoreau herbarium (with bulk of his collection) collected from Wheeler's Meadow, identified in Eaton's *Flora*. His *Journal* entry for June 27, 1857 can be associated with this collection. Another undated specimen on the same sheet in GH in Thoreau's herbarium (with bulk of his collection) collected from R. Brown meadow is probably Scirpus longii. There are about five references in Thoreau's *Journal* that might be to this or three other Scirpus species. Eaton collected this on July 26, 1959 on gravelly dyke shoulder, near north end of middle dyke, near edge of riverbank at

Great Meadows - a single plant (NEBC and BEDF specimens). Voucher specimen in GH is Thoreau's collection of it from Wheeler's Meadow. <u>Link to image</u>.

Scirpus cyperinus (GM8: same, including var. pelius; TH: Scirpus eriophorum var. cyperinus) COMMON WOOL-GRASS

Eaton says this is common. No specimen in Thoreau herbarium and no specific mention in his *Journal* that can be linked to occurrence in Concord. There are about five references in Thoreau's *Journal* that might be to this or three other Scirpus species. Jarvis notes this as Scirpus eriphorum on June 21, 1835 at Great Meadows. Eaton collected this on August 2, 1930 on the muddy shore of Goose Pond on his wood-lot (NEBC specimen), and on August 7, 1932 in Wheeler's Meadow east of Nashawtuc Hill (BEDF specimen). Doug Goldman collected this on July 4, 2009 in a wet meadow about .2 mile ENE of the intersection of Lexington Road and Old Bedford Road (GH specimen). Voucher specimen in NEBC collected by Edward Hoar on August 18, 1858 at river bank. Link to image.

Scirpus georgianus (GM8: Scirpus atrovirens var. georgianus; TH: not scientifically described until 1900, would have been called Scirpus sylvaticus var. atrovirens by Thoreau) Eaton says this is common. No specimen in Thoreau's herbarium. The sole mention in his *Journal* of Scirpus sylvaticus var. atrovirens collected at Great Meadows on May 28, 1858 turns out to be Scirpus longii based on the specimen and on his *Journal* description. Eaton collected this on September 25, 1965 on the east side of Ball's Hill Road at the edge of mowing, identified by Scirpus expert A. Schuyler in 1986 (NEBC specimen). Voucher specimen in NEBC collected by Eaton on September 14, 1931 in a wet meadow near the mouth of Jenny Dugan Brook at the Sudbury River, identified by Scirpus expert A. Schuyler in 1986. Link to image.

Scirpus hattorianus (GM8: included in Scirpus atrovirens; TH: not scientifically described until 1933)

Eaton does not list this. No specimen in Thoreau herbarium. William Brace collected this on July 10, 1998 in wet woods west of a cornfield along Route 62 and on July 11, 2001 in a wet meadow along "Cedar way" (both NEBC specimens). He identified these as Scirpus atrovirens in the broad sense (which includes also Scirpus georgianus and Scirpus hattorianus). This author determined both specimens to be Scirpus hattorianus in 2017. Voucher specimen in NEBC is William Brace's collection of July 10, 1998. Image not available

Scirpus longii (GM8: same; TH: not scientifically described until 1911, would have been called Scirpus eriophorum by Thoreau)

Eaton says this is rare. It is presently considered threatened and imperiled in Massachusetts. Specimen in Thoreau's herbarium called by him "Scirpus eriophorum" collected at Great Meadows on July 17, 1859 has been identified by M.L. Fernald (the scientific author of this species) as Scirpus longii on the NEBC label for the specimen. Another specimen in Thoreau's herbarium collected at "Grt meadows" on "May 28" and labeled by him as Scirpus sylvaticus has been identified by M.L. Fernald on the NEBC label as Scirpus longii. This latter specimen can be associated with Thoreau's *Journal* entry for May 28, 1858 where he mentions pressing a specimen of "Scirpus sylvaticus var. atrovirens?" from Great Meadows, and his description matches Scirpus longii. Another undated specimen of Thoreau in his collection in GH collected in R. Brown's meadow appears to be this species. There are about five references in Thoreau's *Journal* that might be to this or three other Scirpus species. Jarvis collected this on June 21, 1835 in meadows (MASS specimen). John W. Brainerd collected this on August 2, 1950 at Great Meadows (NEBC specimen). Voucher specimen in NEBC is Thoreau's collection of May 28, [1858]. Link to image.

Scirpus microcarpus (GM8: Scirpus rubrotinctus; TH: not treated in the manuals used by Thoreau, would have been included under Scirpus sylvaticus)

Eaton says this is common. No specimen in Thoreau herbarium. Thoreau specimen cited by Eaton is actually from New Hampshire. References in Thoreau's *Journal* that might refer to this could also refer to two or three other Scirpus species. R.L. Petersohn collected this on August 9, 1963 at Great Meadows (BEDF specimen). Voucher specimen in BEDF collected by Laurence E. Richardson on June 8, 1961 at Spencer Brook. Image not available.

Scleria triglomerata (GM8: same; TH: same)

Eaton says this is rare. In Massachusetts this species is presently considered endangered and critically imperiled. No specimen in Thoreau's herbarium or reference to this in his *Journal*. Voucher specimen in NEBC collected by Edward Hoar with no date in "Wet meadow w.[est] of Lee farm road to Concord edge of woods." <u>Link to image</u>.

Trichophorum planifolium (GM8: Scirpus verecundus; TH: Scirpus planifolius)
Eaton does not list this. Specimen in Thoreau herbarium is from Lincoln. Two references to this in Thoreau's *Journal*. One is to the Lincoln occurrence. The other is on May 20, 1860 where he refers to it "apparently in prime in woods about the bottom of the long south bay of Walden, say two rods southwest." William Brace collected this on May 22, 1996 in dry woods in the Walden Woods north of the pond, but misidentified it as an Eleocharis (NEBC specimen). Cole Winstanley collected this On June 13, 2016, about 6-10 clumps on a rocky slope near Cornus florida in woods southwest of White Pond near the Sudbury line west of the railroad tracks (NEBC specimen). He also found it on June 25, 2016, more than 150 plants of this at Thoreau's Sugar Maple Grove on Conantum, and on June 26, 2016 at the Estabrook House site. Voucher specimen in NEBC is William Brace's collection on May 22, 1996. Image not available. Link to image of Winstanley specimen.

**Eriocaulaceae** (GM8: same; TH: Eriocaulonaceae)

Eriocaulon aquaticum (GM8: Eriocaulon septangulare; TH: Eriocaulon septangulare) WHITE-BUTTONS

Pratt says this is common on sandy borders of ponds, etc. Hosmer and Eaton also call this common. Specimen in Thoreau herbarium is undated and without locality. There are about 12 references to this in Thoreau's *Journal*, for example, seeing it at Goose Pond on April 16, 1855. David Potter collected this on July 20, 1925 at Goose Pond (GH specimen). Eaton collected this on July 17, 1927 in wet mud at the shore of Goose Pond on his wood-lot. In unpublished notes Eaton says this is common at Goose Pond where he collected it in mud flats and wet mud shore on July 17, 1927 and June 22, 1930 (BEDF specimens). Voucher specimen in NEBC collected by Eaton on August 6, 1920 in dry mud hole of the wet Wheeler's Meadow east of Nashawtuc Hill [river meadow near Nashawtuc Bridge]. Link to image.

**Hydrocharitaceae** (GM8: same + Najadaceae; TH: Hydrocharidaceae + Naiadaceae (in part)) Elodea nuttallii (GM8: same; TH: Anacharis canadensis (in part))

Pratt and Hosmer do not list this. Eaton says it was formerly abundant in the rivers and still present in 1974, but status in doubt. There is no specimen in Thoreau's herbarium and only one reference to it (as "eudora") in his *Journal*, but not in Concord. Eaton collected this on July 12, 1953 midstream in the Sudbury River where it was abundant (NEBC and BEDF specimens), and on August 3, 1957 at Great Meadows in shallow water in the westernmost

impoundment (BEDF specimen). Laurence Richardson collected this on June 28, 1961 in the Assabet River (BEDF specimen). C.B. Hellquist collected this on September 7, 1971 in the Sudbury River near Route 2, and on October 5, 1971 in the Assabet River near the junction with the Concord and Sudbury Rivers (MASS specimens). Voucher specimen in GH collected by David Potter on July 10, 1925 in the Concord River. Link to image.

Najas flexilis (GM8: same: TH: same)

NORTHERN WATER-NYMPH

Pratt and Hosmer do not list this. Eaton says this was formerly abundant in the Sudbury and Concord Rivers and in the uppermost (private) impoundment at Great Meadows, but not found recently possibly due to sewage pollution (since the mid-1930s, as noted under Lemna minor which had the opposite effect on that species), present status uncertain. No specimen in Thoreau herbarium. Thoreau's only two *Journal* references, of April 29, 1860 and June 26, 1860, refer to finding this or, much less likely, Najas gracillima, in the Assabet River. Voucher specimen in NEBC collected by Eaton on July 21, 1929 in deep, slow water of the Sudbury River. Link to image.

Najas gracillima (GM8: same; TH: not scientifically described until 1867) Pratt and Hosmer do not list this. Eaton says this is infrequent, possibly rare, collected from a single pond. No specimen in Thoreau herbarium. Thoreau's only two Journal references, of April 29, 1860 and June 26, 1860, refer almost certainly to Najas flexilis in the Assabet River. Voucher in NEBC collected by Eaton on August 3, 1957 in the shallow (4 feet). muddy bottom of Bateman's Pond. Link to image.

**Hypoxidaceae** (GM8: Amaryllidaceae (in part); TH: Amaryllidaceae)

Hypoxis hirsuta (GM8: same; TH: Hypoxis erecta)

**COMMON STARGRASS** 

Pratt, Hosmer and Eaton say this is common. Specimen in Thoreau herbarium undated and without locale. There are about 15 references to it in Thoreau's Journal. Eaton collected this On July 4, 1920 in a damp meadow (BEDF specimen). Cherrie Corey reported this at the lime auarries in Estabrook Woods (2014) and abundant at the tip of a peninsula on the south side of Well Meadow Head (2015). Cole Winstanley photographed this in 2014 along a grassy part of the Carlisle Trail in Concord in the northern part of Estabrook Woods where this author had seen it in the 1980s. Voucher specimen in herbarium of the University of New Hampshire collected by A.P. Chute (no date or locale within Concord given). Link to image.

**Iridaceae** (GM8: same; TH: same)

Iris prismatica (GM8: same; TH: same and Iris virginica (in part))

SLENDER BLUE FLAG

Pratt says this is not as common as Iris versicolor. Hosmer says it is common in the Concord vicinity. Eaton says it is becoming rare, formerly occasional in suitable brook meadows. No specimen from Concord in Thoreau herbarium. There are about eight references to it in Thoreau's Journal. On June 20, 1852 he identifies it apparently at or near the Hubbard Bathing-Place. On June 17, 1854 he notes it well in flower at Peltandra Meadow [near the Hubbard Bathing-Place] but not yet at Arum meadow. No other references refer to other locations in Concord. Thus, Thoreau only saw this in Concord at about two locations. In unpublished notes Eaton cites it as in a meadow at Spencer Brook west of old Worthley Farm [1227 Lowell Road], and at the foot of Ball's Hill collected by William Brewster on September 11, 1893. Laurence Richardson collected this on June 26, 1961 in Boulder Field near Virginia Road (BEDF specimen). This author found about three plants near the edge of a river meadow east of Nashawtuc Road toward the hill in 1979 and also doing well in a low thicket west of Hanscom Field in 1981 (possibly Richardson's site). On June 24, 2016 Cole Winstanley found thousands of this at the Old Calf Pasture. Voucher specimen in NEBC (and in BEDF) collected by Eaton on July 4, 1920 in a wet, peaty meadow near the side of a brook east of the 8<sup>th</sup> hole at the Concord Country Club. Link to image.

IRIS PSEUDACORUS (GM8: same; TH: not treated in the manuals used by Thoreau) YELLOW IRIS

Pratt does not list this. It is included without comment in an addendum of three loose pages associated with his manuscript after his death. Hosmer says this occurs at the Mill Race [Thoreau mill site in Estabrook Woods] and "Pratt's River." Eaton calls it sporadic. No specimen in Thoreau herbarium or reference to it in his Journal. To summarize the notes of Walter Deane on two specimens in NEBC collected by William Brewster: Apparently someone set this out along the Concord River about one quarter mile below Flint's Bridge on Monument Street sometime before 1893 (at least by 1884, see voucher specimen). About that year it covered an area 10 feet across. In 1893 William Brewster collected a couple rootstocks from this colony and transplanted them to his property downstream where he placed them in a swampy spot between Ball's Hill and Davis Hill where they flowered and fruited regularly. On September 11, 1898 Brester collected some from this transplanted colony for a specimen that is in the NEBC and mistakenly on the sheet for that specimen attributed the original introduction to Minot Pratt for which there is no evidence, as noted correctly on the sheet by Deane. In 1911 Brewster transplanted a couple rootstocks from his property to another spot on his property by the Concord River at the foot of Ball's Hill. The first colony on his property was destroyed soon after this. On June 7, 1912 Brewster collected a specimen from this later transplantation (NEBC specimen). Eaton notes in 1968 (on the 1912 Brewster specimen) that between 1910 and 1920 there were several colonies of this established on the edge of filled land along the Sudbury River between Elm Street and Nashawtuc Bridge. This author saw it in flower on May 29, 1982 in the Sudbury River meadow on the west side of Nashawtuc Road. In 2021 Cherrie Corey reported that it had spread in the previous 10 years to become occasional. Voucher specimen in MASS collected by Miss M. Hayward on June 16, 1884 which Walter Deane notes on the specimen was collected from the original colony along the Concord River (see above). Link to image.

Iris versicolor (GM8: same; TH: same)

**BLUE FLAG** 

Common according to Pratt, Hosmer and Eaton. Specimens in Thoreau herbarium without date or locality, with one collected from New Bedford. There about 24 references to it Thoreau's *Journal*. In 2021 Cherrie Corey reported that this had become scarce. Voucher specimen in NEBC collected by Edward Hoar on June 14, 1858. Link to image.

Sisyrinchium angustifolium (GM8: same; TH: Sisyrinchium bermudiana (in part)) STOUT BLUE-EYED GRASS

Only one species was distinguished in New England in the time of Thoreau, Pratt and Hosmer, whereas now three species are distinguished, all more or less common. Pratt and Hosmer call this combined species common. Eaton says this is frequent. A specimen in Thoreau's herbarium labeled by him as "Sisyrinchium bermudiana" without locality or date has been determined to be this species. There are about 29 references in Thoreau's journal to

this or to the other two Concord species in this genus. Voucher specimen in NEBC collected by Eaton on June 16, 1957 in brook gravel at Angier's Mill. Link to image.

Sisyrinchium atlanticum (GM8: same; TH: not scientifically described until 1896) EASTERN BLUE-EYED GRASS

See note under Sisyrinchium angustifolium. Eaton says this is common, often abundant. No specimen in Thoreau herbarium. Eaton collected this on July 4, 1920 along a brook in a meadow at the Concord Country Club, and on June 16, 1957 on the moist bank of a mill pond at Angier's Mill (both BEDF specimens). Voucher specimen in NEBC determined later to be this species was collected by Edward Hoar on June 10, 1858 (no locale within Concord given). Link to image.

Sisyrinchium montanum var. crebrum (GM8: same; TH: species not scientifically described until 1899 and the variety not described until 1946)

COMMON BLUE-EYED GRASS

See note under Sisyrinchium angustifolium. Eaton says this is common, often abundant. No specimen in Thoreau herbarium. Voucher specimen in NEBC collected by Eaton on June 5, 1958 at the edge of thin woods in dry, rocky soil near a foot-path at Martha's Point. Link to image.

**Juncaceae** (GM8: same; TH: same) -- Pratt and Hosmer essentially do not treat this family Juncus acuminatus (GM8: same: TH: same, excluding Juncus canadensis)

Eaton says this is locally common. Four collections in Thoreau's herbarium to which he applied this name have all been identified as Juncus brevicaudatus, so that his four *Journal* references to this species are suspect. Eaton collected this on June 29, 1921 in Wheeler's Meadow east of Nashawtuc Hill [river meadow near Nashawtuc Bridge], on September 12, 1931 on an alluvial river bank of the Sudbury River, and on July 16, 1957 in the wet river meadow near Nashawtuc Bridge (all BEDF specimens). Voucher specimen in NEBC collected by Edward Hoar on July 27, 1890 in "Meadow, end of path to river south of Cliffs." <u>Link to image</u>.

Juncus articulatus (GM8: same, including var. obtusatus; TH: same)

Eaton says this is apparently very scarce. Two specimens in Thoreau herbarium on July 7, 1860 and June 25 (year unknown) both collected on the north side of the railroad at a ditch above "Plater's." An unpublished *Journal* passage on July 7, 1860 refers to the specimen collected that day. His only published *Journal* reference to this species on September 3, 1858 with a question mark is associated with a specimen in his herbarium that has been identified as Juncus canadensis. Voucher specimen in NEBC is Thoreau's July 7, 1860 collection of it. Link to image.

Juncus balticus subsp. littoralis (GM8: Juncus balticus var. littoralis; TH: Juncus balticus)

Eaton says this is infrequent. There are two specimens of this in Thoreau's herbarium from Concord both labeled by him as Juncus filiformis, the later collection with a question mark. Both collections are apparently from the same station at Second Division Brook. The first one was collected May 30, 1860 for which there is a *Journal* entry referring to it speculating that it will not flower for a week, also noted on his herbarium label. The second specimen was collected there on June 14, 1860 with his *Journal* as just beginning to flower at the west or northwesterly edge of Second Division Brook next to the higher ground. There is one reference specifically to this (but not in Concord) in addition to about four references to Juncus

filiformis which is not known from Middlesex County, MA. Voucher specimen in NEBC is Thoreau's June 14, 1860 collection of it. Link to image.

Juncus brevicaudatus (GM8: same; TH: not scientifically described until 1866)

Eaton says this is common. Three specimens in Thoreau's herbarium have been determined to be this species. One he labeled "Juncus articulatus??" collected on September 5 (no year) at Utricularia Pool, located in Lincoln south of Walden Pond. Another he labeled "Juncus acuminatus" collected on August 30 (no year) at Dodd's [Jonathan Moore Dodd (1801-1885) lived on Main Street with the Sudbury River at the back of his property.] which matches his *Journal* entry of August 30, 1858 mentioning the species and the locale. Yet another he labeled Juncus acuminatus collected on July 26, 1860 at Hubbard's Close where his *Journal* entry for this date mentions the locale but not the Juncus. Eaton collected this on August 2, 1930 in a muddy place at Goose Pond on his wood-lot, and on August 9, 1957 on a sandy beach at Jenny Dugan Brook at Williams Road (both BEDF specimens). Voucher specimen in NEBC Thoreau's collection of July 26, 1860. Link to image.

Juncus bufonius (GM8: same; TH: same)

TOAD RUSH

Eaton says this is common, often weedy. A specimen in Thoreau's herbarium was collected at Hubbard grove brook bridge path on July 3 (no date) matches his *Journal* entry for July 3, 1859 where he mentions the species and locale, adding that it "is very abundant in the path there." There are about three references to this in Thoreau's *Journal*. Eaton collected this on September 11, 1932 on a gravelly shore of Bateman's Pond (BEDF specimen). Voucher specimen in NEBC is Thoreau's collection of it on July 3, 1859. Link to image.

Juncus canadensis (GM8: same; TH: Juncus acuminatus (in part))

Eaton says this is common. There are six specimens in Thoreau's herbarium. One was labeled "Juncus paradoxus" collected on September 5 (no year) at Utricularia Pool which is in Lincoln. Another was also labeled Juncus paradoxus and collected August 10 (no year) at Hubbard's Close, matching a *Journal* passage for August 10, 1860. A third labeled "Juncus paradoxus?" collected on August 30, 1858 at Dodd's shore is noted in his Journal entry for this date. [Jonathan Moore Dodd (1801-1885) lived on Main Street with the Sudbury River at the back of his property.] A fourth collected on September 3, 1858 labeled "Juncus scirpoides ??" was collected along the Assabet River at the sandbar by the swimming ford, according to his *Journal* entry for this date. A fifth specimen also collected on September 3, 1858 at the same place on the Assabet River was labeled by him as "Juncus articulatus??". A sixth specimen labeled "Juncus scirpoides" was collected on August 25, 1858 at Alder Ditch in Great Meadows as noted in his *Journal* entry for this date. Three of the four references to Juncus acuminatus in Thoreau's Journal might be to this species rather than to Juncus acuminatus. Eaton collected this on August 23, 1957 north of Punkatasset Hill in an exsiccated grassy and sphagnous swamp, and on September 16, 1961 at the edge of a shallow pond near the margin of the sphagnum bog south of Walden Pond [Heywood's Meadow] (both BEDF specimens). Voucher specimen in NEBC is Thoreau's collection of August 10, 1860. Link to image.

Juncus dichotomus (GM8: Juncus platyphyllus; TH: Juncus tenuis (in part))
Eaton says this is uncommon. Specimen in Thoreau herbarium collected on July 4, 1860 at White Pond field. His label refers to this as "Juncus 3 flowered one sided raceme." An unpublished passage of Thoreau's *Journal* for this date refers to it as follows: "Also that 3 flowered--spreading racemed one 12 to 18 inch high now just done & abundant in the White pond field esp. the N. W. part of it -- ... Methinks there are several species in the neighborhood of [Juncus tenuis] undescribed." One or more of his 7 *Journal* references to

Juncus tenuis might be to this species. Voucher specimen in NEBC is Thoreau's collection of it. Link to image.

Juncus effusus (GM8: same, including varieties costulatus, decipiens, and solutus; TH: same) TUFTED RUSH

Pratt lists this without comment. Eaton says this is common. Specimen in Thoreau herbarium without locality collected on July 20, 1859. Thoreau's *Journal* entry for this date indicates he was in Concord, but the Juncus is not mentioned. There are about five references to this in his *Journal*. On June 9, 1858 he notes it at the roadside by Moore's Swamp and says it is very common. Jarvis notes this on June 5, 1835 at Mill Brook. Eaton collected this on August 25, 1931 in mud on a sandy shore of Goose Pond (BEDF specimen), on July 27, 1956 in a wet meadow along Millbrook at Heywood St. (filed in NEBC under Juncus pylaei), and on July 27, 1957 in low, marshy ground at the border of G. Root's Ice Pond [Crosby Pond] (NEBC specimen). Voucher specimen in GH collected by Harley H. Bartlett on July 21, 1907 in meadows along the Concord River. Link to image.

Juncus greenei (GM8: same; TH: same)

Eaton says this is occasional. Two specimens in Thoreau's herbarium. One was collected on July 4, 1860 – "on the old road just behind our Texas lot." The other with the name Juncus greenei crossed out was collected on July 12, 1859 at Shadbush Meadow. There are two references to this in his *Journal*. On August 3, 1859 he notes it in the river meadow opposite Dodd's. [Jonathan Moore Dodd (1801-1885) lived on Main Street with the Sudbury River at the back of his property.] Eaton collected this on August 29, 1938 in dry sandy soil of an old pasture between railroad tracks and Great Meadows (BEDF specimen). Voucher specimen in NEBC is Thoreau's July 4, 1860 collection of it. Link to image.

Juncus marginatus (GM8: same; TH: same)

GRASS RUSH

Eaton says this is rather common. There are two specimens in Thoreau's herbarium. One was collected on September 7, 1858 collected at Colt path. It matches an unpublished portion of his *Journal* entry for this date that notes this species at this location. The second specimen was collected on July 20, 1859 at Colt path at Poke Logan. There are two references to this in Thoreau's published *Journal*. On July 23, 1859 he notes finding it at Hubbard's Close. Eaton collected this on August 18, 1957 in moist, peaty ground at the edge of an exsiccated brook bed (BEDF specimen). Voucher specimen in NEBC is Thoreau's July 20, 1859 collection of it. Link to image.

Juncus militaris (GM8: same; TH: same)
BAYONET RUSH

Eaton says this is uncommon. Oddly no specimen in Thoreau herbarium. There are about 32 references to this in Thoreau's *Journal*. On August 6, 1854 he notes seeing fields of it on the south side of Fair Haven Bay. On August 30, 1858 he mentions it on the edge of Grindstone Meadow and above. Jarvis notes this on July 4, 1835 near Fairhaven Pond on the northeast side. Voucher specimen in NEBC collected by Walter Deane on August 5, 1886 on the west shore of the Concord [actually Sudbury] River below Nine Acre Corner Bridge [Hubbard's

Bridge] at Heath's farm. Link to image.

Juncus nodosus (GM8: same; TH: same)
Eaton says this is rare. No specimen in Thoreau herbarium or reference to it in his *Journal*.
Voucher specimen in NEBC collected by Horace Mann Jr. in 1862. Link to image.

Juncus pelocarpus (GM8: same; TH: Juncus articulatus var. pelocarpus)

Eaton says this is common. Four specimens in Thoreau herbarium. One labeled Juncus conradii was collected on August 2 (no year, probably 1858) at Pout's Nest [Wyman's

Meadow at Walden Pond]. Another is labeled "Juncus bufonius??" collected on August 26, 1858 at Holbrook ditch meadow and is noted in an unpublished *Journal* entry for this date. Another is on August 31, 1858 at Pout's Nest labeled "Juncus conradii?", which matches an unpublished *Journal* passage. Lastly there is a specimen of this collected on August 21, 1859 at the Holt Ford at Great Meadows labeled "Juncus conradii?". There are no references to this in Thoreau's *Journal*, except that one reference to what he calls Juncus conradii on July 30, 1860 at J.[ames] P. Brown's Cold Pool is likely to be this species. Eaton collected this on September 15, 1928 at the shore of Goose Pond (BEDF specimen), and on December 14, 1957 in shallow water at the shore of White Pond (NEBC and BEDF specimens). Voucher specimen in NEBC is Thoreau's collection of it on August 21, 1859. Link to image.

Juncus secundus (GM8: same; TH: not distinguished in the manuals used by Thoreau) Eaton says this is infrequent. No specimen in Thoreau's herbarium. Voucher specimen in NEBC collected by Eaton on August 7, 1957 at Monument Street causeway in low, shaded, sandy ground. Link to image.

Juncus tenuis (GM8: same, including var. williamsii + Juncus platyphyllus; TH: same, but including Juncus secundus)

PATH RUSH

Eaton says this is very common. Two specimens in Thoreau's herbarium from Concord. One was collected August 27, 1858 by the Depot. His *Journal* entry for this date notes that it was collected by the depot wood-piles and more was at his boat's shore. The second was collected on July 4, 1860 at "Hill side path in sprout land between Springs & Wheeler's clearing" and is mixed with Juncus greenei. There are about seven references to this or Juncus secundus in Thoreau's *Journal*, most or all of these likely to be to Juncus tenuis. F.W. Hunnewell 2<sup>nd</sup> collected this on June 17, 1913 on a damp sandy shore of Walden Pond (specimen in herbarium of the New York Botanical Garden). Eaton collected this on September 22, 1929 on a sandy shore of White Pond (NEBC specimen), and on August 7, 1957 on a low sandy causeway at Monument Street (BEDF specimen). Doug Goldman collected this on July 4, 2009 in a damp or wet meadow about .2 miles east-northeast of the intersection of Lexington Road and Old Bedford Road (GH specimen). Voucher specimen in NEBC is Thoreau's collection of August 27, 1858. Link to image.

Luzula multiflora subsp. multiflora (GM8: same; TH: Luzula campestris, Juncus campestris) Eaton says this is common. A specimen in Thoreau's herbarium was collected on May 1, 1859 without locale. His *Journal* notes it on May 1, 1859 without specific location. On that day Clamshell [Hill] is mentioned as part of his itinerary. Thoreau's *Journal* entry for the day before, April 30, 1859, notes it at Clamshell [Hill] about to blossom, so that it is most likely that the collection is from Clamshell Hill. There are about 10 references to this in Thoreau's *Journal*. Most of the *Journal* references are to the Clamshell Hill location. Laurence Richardson collected this on May 18, 1961 at Jenny Dugan Brook and River, apparently where it enters the Sudbury River (BEDF specimen). William Brace collected this on June 26, 1996 in the Old Calf Pasture (NEBC specimen). Voucher specimen in NEBC is Thoreau's collection of it. Link to image.

**Liliaceae** (GM8: Liliaceae (in part); TH: Liliaceae (in part) + Smilaceae (in part)) Clintonia borealis (GM8: same; TH: same)

YELLOW CLINTONIA

Pratt notes this in "Walden woods, and elsewhere." Hosmer says it is common. Eaton calls it frequent, often in large patches. Two specimens in Thoreau's herbarium are undated and

without locale. There are about 30 references to it in Thoreau's *Journal*. On June 4, 1853 he notes it abundant at the base of the hill beside what he names Clintonia Swamp which is in what is now the Town Forest. This author noted finding it just north of White Pond bog in 1981 and confirmed it was still in Ministerial Swamp in 2007. Sophia Thoreau collected this in Sleepy Hollow (undated, specimen at The Thoreau Institute). Laurence Richardson collected this on June 25, 1960 east of the intersection of Powder Mill Road and the railroad line [near White Pond], and on June 4, 1961 near the White Pond Bog at Powder Mill Road and the railroad (both BEDF specimens), the latter location apparently the same location of Eaton's collection and where this author saw it. In 2021 Cherrie Corey reported that this ha become rare. Voucher specimen in NEBC collected by Eaton on June 5, 1921 on a moist shaded bank near the source of Jenny Dugan Brook (same as this author's station of it north of White Pond bog). Link to image.

ERYTHRONIUM AMERICANUM subsp. AMERICANUM (GM8: same; TH: same) TROUT LILY

Pratt says he introduced this in various places, but that none of them had flowered as of 1878. Hosmer simply notes this at the Millrace (site of Thoreau mill in Estabrook Woods) and Pratt's Swamp (also in Estabrook Woods). Eaton lists this only in an appendix as unlikely in Concord. Specimen in Thoreau's herbarium is not from Concord, and none of his three *Journal* references to it are to any occurrence in Concord. Esther Anderson found this on May 29, 1975 on a steep, wooded slope (a former pasture) off Garfield Road (mounted photo in NEBC). It is likely that this latter station is either a garden escape or one of the Pratt introductions, since Thoreau, Pratt, Hosmer and Eaton are unlikely all to have missed a native occurrence at this Conantum site. This author found this near the Thoreau mill site in 1981 (not flowering then but observed by others to be flowering in 2013), near Pratt's Spring plentiful and in flower 1982 through 1987, and near where the Oxcart Trail meets Route 2 (a likely plantation). The evidence suggests that all occurrences to date are introductions, mostly or all by Pratt. In 2021 Cherrie Corey reported that this was rare. Voucher specimen in NEBC collected by Herbert W. Hosmer with no date or specific locale in Concord given. Link to image.

Lilium canadense (GM8: same; TH: same)
CANADA LILY

image.

Pratt simply notes that this occurs in moist meadows and is more common than Lilium philadelphicum. Hosmer and Eaton say this is common. Four specimens in Thoreau herbarium – two undated and without locality and two not from Concord. There are about 12 references to this in Thoreau's *Journal*. Cole Winstanley photographed this in flower on July 10, 2012 in the Spencer Brook area, and in 2014 there were six plants there with three flower buds plus two blossoms. In June 2015 he found this in a swampy area on the north side of Redcoat Lane. On June 26, 2016 Cole Winstanley found three separated colonies of this, each with 8-10 plants not yet flowering, at a swamp in Estabrook Woods. In 2021 Cherrie Corey reported that this just occasional. Voucher specimen in NEBC collected by Eaton on July 23, 1922 in a river meadow (according to his unpublished notes). Link to

LILIUM LANCIFOLIUM (GM8: Lilium tigrinum; TH: Lilium tigrinum)
TIGER LILY

Pratt does not list this. Hosmer notes simply that it is escaped. Eaton says it is an occasional escape. No specimen in Thoreau herbarium. Thoreau's single *Journal* reference is on August 16, 1856 where he mentions it under its common name, finding it "by the roadside [apparently Lexington Road] far from houses (near Leighton's graveyard)." Voucher specimen

in NEBC collected by Eaton on August 12, 1958 at the roadside of Barrett's Mill Road near Strawberry Hill Road in moist alluvial ground where long established. <u>Link to image.</u> Lilium philadelphicum (GM8: same; TH: same)

WOOD LILY

Pratt notes this as frequent in bushy pastures and copses [habitat that is much reduced since Thoreau's time]. Hosmer simply notes that it is rather common in the Concord vicinity. Eaton says it is frequent, but scarce. Specimen in Thoreau's herbarium is undated and without locale. There are about 13 references to this in Thoreau's *Journal*, all but one of these under the common name "red lily." This author saw just a bit of this at the lime quarries near Estabrook Road in Estabrook Woods. Voucher specimen in NEBC collected by Eaton on July 19, 1920 in dry, scrubby woods along Estabrook Road. Link to image.

Medeola virginiana (GM8: same; TH: Medeola virginica)

INDIAN CUCUMBER ROOT

Pratt, Hosmer and Eaton say this is common. Specimen in Thoreau's herbarium is without date or locality. There are about 21 references to this in Thoreau's *Journal*. Eaton collected this on June 11, 1921 in moist, rocky woods above G. Root's swamp (BEDF specimen). Voucher specimen in GH collected by David Potter on July 20, 1930. Link to image.

**Melanthiaceae** (GM8: Liliaceae (in part); TH: Melanthaceae (in part) + Smilaceae (in part))
Trillium cernuum (GM8: same; TH: same)

NODDING TRILLIUM

Pratt and Hosmer say this as common. Eaton calls it uncommon. Specimen in Thoreau herbarium is undated and without locality. There are about 24 references to it in Thoreau's *Journal*. Jarvis notes this at R. Brown's hill and in [?] brook front of E. Hosmer's [Saw Mill Brook]. This author found this most abundant on the east face of Poplar Hill and the northern edge of a swamp east of Bateman's Pond. It was also in the hollow at the end of a hemlock ridge that overlooks Yellow Birch in the Town Forest, in the vicinity of Annursnack Hill, and near where Oxcart Trail meets Route 2. On June 26, 2016 Cole Winstanley found a good quantity of this in a swamp in Estabrook Woods. In 2021 Cherrie Corey reported that this had become rare. Voucher specimen in NEBC collected by Eaton on July 2, 1922 in rich woods. Link to image.

TRILLIUM ERECTUM (GM8: same; TH: same)

PURPLE TRILLIUM

Pratt says he introduced it from [Mt.] Wachusett [Massachusetts]. Hosmer does not list it or include it in his list of Pratt introductions. Eaton does not list it. Specimen in Thoreau herbarium is not from Concord. His single *Journal* reference is to occurrence outside of Concord. This author discovered two plants of this at Pratt's Spring when this author rediscovered the spring on May 13, 1982. Due to its scarcity this author only photographed it. This is almost certainly from the plants introduced by Pratt. Voucher is this author's photograph shown below.



Trillium erectum, Pratt's Spring, Concord, MA May 13, 1982, by Ray Angelo

### TRILLIUM GRANDIFLORUM (GM8: same; TH: same)

#### **SNOWY TRILLIUM**

Pratt indicates that he introduced this from the Botanical Garden in Cambridge, MA. Hosmer notes it at Pratt's and includes it in his list of Pratt introductions still persisting but with only two or three plants left. Eaton excludes this saying that the Hosmer herbarium specimen without data (other than "Concord") is doubtless an introduction. Specimen in Thoreau herbarium is not from Concord. There are no references to this in his *Journal*. This author found this plentiful in the vicinity of Pratt's residence not far from his spring, before landscaping destroyed most of it. This was likely the remnants of Pratt's introduction or that of his son or grandson who operated a nursery in the area. On May 17, 2014 Cherrie Corey found a single fading flower of this near the Thoreau mill site. Voucher specimen in NEBC collected this author with others on May 1, 1983 in the vicinity of Pratt's residence and his spring; photograph by this author below at the site of the collection. Link to image.



Trillium grandiflorum, Pratt area, Concord, MA May 13, 1983, by Ray Angelo

Trillium undulatum (GM8: same; TH: Trillium erythrocarpum, Trillium pictum)
PAINTED TRILLIUM

Pratt says this is rare, found only in a small grove near the Fitchburg Railroad. Hosmer notes it only at Pratt's and in Stow Swamp (in Stow, MA where it still grew in the 1980s). Eaton says it is rare, perhaps extirpated. Two specimens in Thoreau herbarium are not from Concord. A specimen labeled by Thoreau as Medeola virginica and identified in a listing of his specimens as "Trillium undulatum" seems very unlikely fro Concord. There are about four references to this in Thoreau's *Journal*. On September 22, 1852 he records the finding of this in Concord by his sister, Sophia, but no locality or date are given. This is his only *Journal* reference to occurrence in Concord. A specimen of this is not in Sophia Thoreau's herbarium in The Thoreau Society archives at The Thoreau Institute. Voucher in NEBC collected by Alexander Hoyle in May 1901 with no locale in Concord given. Link to image.

Veratrum viride (GM8: same; TH: same)

#### WHITE HELLEBORE

Pratt oddly does not list this. Hosmer says that it is common [in the Concord vicinity]. Eaton calls it common. Specimen in Thoreau's herbarium is undated and without locality. There are about 45 references to this in Thoreau's Journal. Jarvis notes this on June 8, 1835 near [Cambridge] turnpike. Laurence E. Richardson collected this on June 9, 1960 at Second Division Brook (BEDF specimen). This author found this frequent, but not especially common, for example, at Well Meadow Head, the Ministerial Swamp and other places. Cherrie Corey reported (2014) that it "grows abundantly and with vigor throughout many of the wet seeps in Estabrook Woods, especially in upper Saw Mill Brook and the drainage from Mink Pond." She found it at a different location in 2013, and this author found it in yet a different location in 2007. She also reports (2014) that it is frequent throughout the upper Spencer Brook valley. On June 26, 2016 Cole Winstanley saw hundreds of plants of this just off the tip of a swamp peninsula in Estabrook Woods where this author also found Asclepias exaltata. Voucher specimen in NEBC collected by Eaton on June 1, 1958 at a swampy brookside in woods west of Old Marlborough Road (east branch of Second Division Brook). Link to image.

**Orchidaceae** (GM8: same; TH: same)

Arethusa bulbosa (GM8: same; TH: same)

**ARETHUSA** 

Pratt says this is abundant in mossy swamps in all quarters of the town. Hosmer calls it common. Eaton says it was formerly locally abundant, but now [1974] very rare, perhaps extirpated. Specimen in Thoreau herbarium is undated and without locality. There are about 24 references to it in Thoreau's *Journal*, all but four of them in the first half of the journal. Jarvis notes this on June 8, 1835 in "Meadows by [Cambridge] turnpike; N.[orth] of F. Jarvis." This is likely to be a population known by Thoreau and Eaton from a meadow near the turnpike that is now Crosby Pond, or a population nearby. The only station this author saw for it near Concord was a bog in Lincoln where it was sparse in the early 1980s. Voucher specimen in NEBC (and in BEDF) collected by Eaton on June 5, 1921 in a wet, sphagnous meadow along Jenny Dugan Brook about ½ mile above the Concord Country Club. His collection of Allium canadense five days earlier in the same year in association with Arethusa in the same vicinity suggests that both collections are from the same site. Link to image.

Calopogon tuberosus var. tuberosus (GM8: Calopogon pulchellus; TH: Calopogon pulchellus, Cymbidium tuberosum)

**GRASS-PINK** 

Pratt says this is rather common in boggy places. Hosmer calls it common. Eaton says it is uncommon. Specimen in Thoreau's herbarium not from Concord. There are about 14 references to it in Thoreau's *Journal*. In unpublished notes Eaton mentions it at the bog south of Walden Pond [Heywood's Meadow] and at the Concord Country Club near Jenny Dugan Brook (same general area as Arethusa, see voucher reference below). Voucher specimen in BEDF collected by Eaton on July 4, 1920 east of the 8<sup>th</sup> hole of the Concord Country Club in a sphagnous and peaty meadow. Image not available. Link to Horace Mann specimen.

Corallorhiza maculata (GM8: same; TH: Corallorhiza multiflora)

SPOTTED CORAL-ROOT

Pratt does not list this. It is included without comment in an addendum of three loose pages associated with his manuscript after his death. Hosmer notes this at Bateman's [Pond] and Millrace [Thoreau mill site] and says it is not uncommon. Eaton says it is scarce. Specimen in Thoreau herbarium is dated August 29, 1857. This corresponds to his Journal entry for this date when he was visiting the vicinity of Owl-Nest Swamp "Near by [near Indian Rock], north, is a rocky ridge, on the east slope of which the Corallorhiza multiflora is very abundant. Call that Corallorhiza Rocks." Another specimen is undated and without locality. There are about 10 references to this in Thoreau's Journal. On August 20, 1852 he refers to Emerson finding this at Brister's Spring on August 12, and again at Brister's Hill on July 29, 1853. On August 1, 1854 he refers to it at Fair Haven Pond. A few other Journal references are not specific as to location. Edward Hoar collected this on August 5, 1879 at Conantum Cliff [Hoar's name for Martha's Point] under trees (NEBC specimen). Eaton collected this on September 14, 1958 at Martha's Point (NEBC specimen), and on October 12, 1927 in Hudson's pine woods near the Sudbury River (BEDF specimen). Steve Tobin relocated this at Thoreau's Corallorhiza Rocks in August 2021. Voucher specimen in GH is Thoreau's collection of it. Link to image.

Cypripedium acaule (GM8: same; TH: same) PINK LADY'S-SLIPPER

Pratt, Hosmer and Eaton say this is common. Jarvis notes this on May 29, 1835 in Walden Woods. Specimen in Thoreau herbarium is undated and without location. There are about 22 references to it in Thoreau's *Journal*. On May 19, 1860 Thoreau notes in his *Journal* "At the Ministerial Swamp I see a *white* lady's-slipper almost out, with red ones." On June 3, 1980 this author photographed (see below) a white form of the Pink Lady's-slipper at Ministerial Swamp. Voucher specimen in BEDF collected by Eaton on June 6, 1921 in low pine woods near the source of Jenny Dugan Brook. Image not available. Link to Thoreau specimens.



Cypripedium acaule (white form & typical)
Ministerial Swamp, Concord, MA
June 3, 1980, by Ray Angelo

EPIPACTIS HELLEBORINE (GM8: same; TH: not treated in the manuals used by Thoreau and not recorded in the New World until about 1879)

**HELLEBORINE** 

Pratt does not list this since he died in 1878 before it was in North America. Also not listed by Hosmer since the first New England occurrence (in Stockbridge, MA) was recorded in 1902, and Hosmer died in 1903. Eaton first found this in Concord in 1966. He says it was rare (1974), but notes its rapid spreading in New England. This author found a single plant just east of Pratt's Spring under a White Pine tree in 1982. In 2021 Cherrie Corey reported that this had increased in the previous 10 years to become occasional. Voucher specimen in NEBC collected by Eaton on July 24, 1966 at the edge of dryish oak woods near a ledge beneath the home of Esther Anderson at 262 Garfield Road [Conantum] -- a single plant found. Link to image.

Goodyera pubescens (GM8: same; TH: same, Neottia pubescens) DOWNY RATTLESNAKE-PLANTAIN

Pratt says this is abundant around Punkatasset [Hill] and in Walden woods. Hosmer calls it common. Eaton says it is frequent. Specimen in Thoreau herbarium is without date or locality. There are about nine references to this in Thoreau's *Journal* but about a dozen

additional references are not sufficiently specific to rule out Goodyera tesselata. Jarvis notes this in Walden woods. Eaton collected this on September 21, 1929 in dry oak woods mixed with pine at White Pond, and on August 7, 1938 in pine woods on a north-facing bank in Brewster's Woods (BEDF specimens). Cole Winstanley (2014) reported having seen more than four stations for it in the Estabrook Woods alone. On Aug. 19, 2015 he found more than 650 plants with more than 55 flowering spikes in the Estabrook Woods near the lime quarries. Cherrie Corey found this in 2014 in the upper Spencer Brook valley and a large station in the Estabrook Woods, perhaps the one found by Cole Winstanley in 2015. Voucher specimen in AMES collected by J.M. Greenman on May 30, 1896. Link to image.

Goodyera tesselata (GM8: same; TH: Goodyera repens (in part))

Pratt says this as rare, found in Walden woods and the region about Punkatasset [Hill]. Hosmer calls it rather common [in the Concord vicinity]. Eaton says this is rare. Specimens in Thoreau's herbarium (as Goodyera repens) without date or locality. There are about six references to this in Thoreau's *Journal*. He refers to it in Concord without specific locality on August 8, 1852 and July 16, 1854, at Corallorhiza Hillside in Concord on July 31, 1853, behind a spring in the vicinity of Hubbard's Close on August 20, 1857 and in a White Pine grove in the vicinity of Corallorhiza Rock on September 27, 1857. This author found it occasional when living in Concord, for example in 1982, in a pine stand southwest of Hutchins Pond where it was locally frequent and in woods east of Hubbard's Hill. This latter location is probably the Punkatasset Hill station where Pratt found it. Voucher specimen in NEBC collected by Charles W. Jenks and Charles W. Swan on July 24, 1890 at Walden Pond. Link to image.

Isotria verticillata (GM8: same; TH: Pogonia verticillata) LARGE WHORLED POGONIA

Pratt and Hosmer do not list this. Eaton says it is rare. No specimen in Thoreau herbarium. However, an extra Thoreau label mounted with Thoreau's specimen of Dichanthelium latifolium refers to "Whorled pogonia field" on June 16, 1858 when he was in Concord. Thoreau refers to this only twice in his *Journal*. On September 22, 1852 he notes that his sister, Sophia, found it in Hubbard's Second Wood. On June 10, 1858 he records that Sophia received a specimen of this from Northampton [Massachusetts]. However, there are no specimens of it presently in Sophia's herbarium at The Thoreau Institute. Eaton notes a station in pine woods near Kalmia Swamp, and Laurence E. Richardson collected it in the Kalmia Woods on June 2, 1961 (BEDF specimen). These woods are now partly the back yard of a residence. This author saw this station on May 17, 1979. There were 50-100 plants in flower in an area about six meters on a side at that time. Cole Winstanley and Cherrie Corey found about 55 plants at this station on June 12, 2016, but none in flower or fruit. A much larger colony occurs in woods the vicinity of Flint's Pond in neighboring Lincoln, MA which this author first saw on May 28, 1982. Here there were hundreds if not more than a thousand plants there. Voucher specimen in NEBC collected by Eaton at the Kalmia Swamp station on June 4, 1961. Link to image.

Liparis liliifolia (GM8: same; TH: same, Malaxis lilifolia)

LARGE TWAYBLADE

Pratt and Hosmer do not list this. Eaton says this is very rare. No specimen in Thoreau's herbarium. References in his *Journal* are for occurrences not in Concord. The Brattleboro, Vermont references evidently are to Liparis loeselii based on the specimen in his herbarium from Brattleboro. According to Eaton three plants were discovered on private property in Conantum in 1959, with only one surviving in 1974. This author learned that none were surviving as of 1979. This species is considered threatened and imperiled in Massachusetts.

Voucher specimen in NEBC collected by Eaton on June 16, 1961 on a steep, rocky slope behind a residence. Link to image.

Liparis loeselii (GM8: same; TH: same)

LOESEL'S TWAYBLADE

Pratt and Hosmer do not list this. Eaton says this is rare. Specimen in Thoreau's herbarium is not from Concord. No references to this in his *Journal*. The only evidence for this in Concord is the voucher specimen "Found at the foot of the Cliffs" collected by Edward Jarvis in 1834 (MASS specimen). Image blocked.

Platanthera blephariglottis var. blephariglottis (GM8: Habenaria blephariglottis; TH: same) WHITE FRINGED ORCHIS

Pratt says that it is rare and found only in one swamp near Martial Miles [which is the Ledum Swamp of Thoreau]. Hosmer simply notes it at Old Marlborough Road and Grassy Pond [in Acton, MA]. Eaton says it is rare, perhaps extirpated. Specimen in Thoreau herbarium is undated and without locality and not identified by Thoreau. Another specimen identified as this by Thoreau has been identified by Walter Kittredge in 2017 as Platanthera lacera. There are about 10 references to this in Thoreau's *Journal*. Four of his references are to occurrence in Concord – August 11, 1852 and July 23, 1854 are not specific as to the site in Concord; July 29, 1853 in Poorhouse Meadow likely to be this species; August 8, 1858 at Ledum Swamp ("near the pool, the white fringed orchis, quite abundant but past prime ... It seems to belong to this sphagnous swamp ... It loves, then, these cold bogs."). Edward Jarvis collected this on July 30, 1834 in "Low woods west of Cyrus Hosmer's [crossed out and replaced by 'Elijah Stevens?']" (MASS specimen). The annotation for this in Jarvis's copy of Florula Bostoniensis reads "Woods N. of Elijah Stevens" with the date July 30, 1834. Image of Jarvis specimen is blocked. Voucher specimen in NEBC collected by Horace Mann Jr. in 1862. Link to image.

Platanthera clavellata (GM8: Habenaria clavellata var. ophioglossoides; TH: Gymnadenia tridentata)

#### GREEN WOODLAND ORCHIS

Pratt says this (as Habenaria tridentata) is rather common, especially in swamps in the northerly part of the town. Hosmer lists this (as Habenaria tridentata) without comment. Eaton says it is perhaps rare. Specimen in Thoreau herbarium is undated and without locality. There are only four references to this in Thoreau's *Journal* of which locales are mentioned for just three. On July 12, 1853 he notes what he thinks might be this at Azalea Brook. On July 26, 1854 he notes this in the swamp southeast of the lime kiln [in Estabrook Woods]. On August 14, 1856 he notes it as near the Saw Mill Brook that runs between Concord and Lincoln. Jarvis notes this "At Joseph Buttrick's; woods W. of Cyrus Hosmer." Cole Winstanley found and photographed nine individuals in blossom on July 21, 2015 in a boggy, sandy pond off of Macone Farm Lane. In 2021 he reported this still to be in the Estabrook Woods. Voucher specimen in NEBC collected by Edward Hoar on August 25, 1857 in "Wet woods along the North Branch of the Concord River [Assabet River]" -- possibly the Azalea Brook station of Thoreau. Link to image.

Platanthera dilatata var. dilatata (GM8: Habenaria dilatata; TH: same) BOG CANDLE

Pratt says he introduced this. Hosmer notes it only from Sudbury, MA. Eaton says it is rare. No specimen in Thoreau herbarium. The three references to it in Thoreau's *Journal* are all in July 1858 when he journeyed to Mt. Washington, New Hampshire. The only voucher for this as a native in Concord is a MASS specimen collected by Edward Jarvis probably around 1835, for which he notes "Found in meadow before Edmund Hosmer's" [now Crosby Pond].

Image blocked. For illustrative purposes an image of NEBC specimen collected by Alfred W. Hosmer in Sudbury is here.

Platanthera flava var. herbiola (GM8: Habenaria flava var. herbiola; TH: Platanthera flava, Orchis herbiola, Orchis virescens)

#### **TUBERCLED ORCHIS**

Pratt does not list this. It is included without comment in an addendum of three loose pages associated with his manuscript after his death. Hosmer calls this (as Habenaria virescens) common [in the Concord vicinity]. Eaton says this is uncommon. Specimen in Thoreau herbarium is undated and without locality. Thoreau refers to this three times in his *Journal* – on July 21, 1852 at the bathing-place in Hubbard's meadow; on July 12, 1853 at Azalea Brook, either this or Platanthera clavellata; and on June 18, 1854 at the Harrington Bathing-Place. Jarvis notes this on July 14, 1834 at "Side fresh pond on tpk [Cambridge Turnpike]; N[ea]r. Capt. H. Hunt's." Eaton collected this on June 29, 1921 in Wheeler's Meadow east of Nashawtuc Hill [river meadow by Nashawtuc Bridge] (NEBC and BEDF specimens). Voucher specimen in NEBC collected by Walter Deane (as Habenaria virescens) on July 6, 1893 in a meadow at the foot of Ball's Hill. Link to image.

Platanthera grandiflora (GM8: Habenaria fimbriata; TH: same, Platanthera fimbriata) LARGE PURPLE FRINGED ORCHIS

Pratt says this as rare, but adds that it is occasionally found in boggy places. Hosmer calls it rather uncommon and only lists it at the Maple Spring. Eaton says it is occasional. Specimen in Thoreau's herbarium that is undated and without locality. There are about 11 references to this in Thoreau's *Journal*. On June 13, 1853 he refers to this orchid as an example of a "rare and beautiful flower." According to his *Journal* he saw this in Concord only at Well Meadow Head. On June 15, 1852 he gives a lengthy account of it there. This author found it at three locations in Concord – just one plant near the outlet of Second Division Brook on June 20, 1979; a few plants at Well Meadow Head on June 11, 1981; and seven plants in June 1979 at a location this author chooses not to disclose, and still there in 2007. Of this latter location Pratt has written "In a wild spot ... (long may it remain secluded) ..." Voucher specimen in NEBC collected by Horace Mann Jr. in June 1862. Link to image.

Platanthera lacera (GM8: Habenaria lacera; TH: same, Orchis lacera)
RAGGED ORCHIS

Pratt says this is rather common in low grounds. Hosmer calls it not uncommon and notes it at Pratt's Swamp and Gowing's Swamp. Eaton says it is sporadically common and widely distributed. Three specimens in Thoreau's herbarium are without locality, two of these undated, the other dated simply 1859. One of the three specimens was identified by Thoreau as Platanthera blephariglottis, but as Platanthera lacera by Walter Kittredge in 2017. In his *Journal* Thoreau refers to this just five times in Concord (once with location not given) -- on July 21, 1851 at Conantum, on July 14, 1853 at the Heywood Brook, on July 10, 1854 at Stow's strawberry meadow ditch, and on July 13, 1856 at "willow-row, Hubbard side, opposite Wheildon's land." Eaton collected this on July 26, 1920 in wet, sphagnous peat along the north side of the 7<sup>th</sup> hole at the Concord Country Club (BEDF specimen). Voucher specimen in NEBC collected by Edward Hoar on July 23, 1858. Link to image.

Platanthera orbiculata (GM8: Habenaria orbiculata; TH: Platanthera orbiculata (in part))
Pratt says this is rare and adds "Have found but three plants, <u>native</u> to Concord, but had previously introduced it from [Mt.] Wachusett. Two of the <u>natives</u> are on Ponkatasset [Punkatasset Hill], and one in the north part of the town." Hosmer simply notes this at Harrington Swamp, Lime Kiln Road, Pratt's Woods, Estabrook Road, and Punkatasset Hill. All but the first of these are in the vicinity of Estabrook Woods. Eaton says this is rare. Two

specimens in Thoreau's herbarium are not from Concord. There are no references in his *Journal* to this in Concord. Voucher specimen in NEBC collected by Hosmer with no date. <u>Link</u> to image.

Platanthera psycodes (GM8: Habenaria psycodes; TH: same, Orchis psycodes) SMALL PURPLE FRINGED ORCHIS

Pratt says this is common in moist meadows. Hosmer calls it rather common and mentions its occurrence at Bateman's [Pond] and Millrace [Thoreau mill site]. Eaton says it is uncommon, perhaps rare. Two specimens in Thoreau herbarium both without dates or locality. There are about 10 references to this in Thoreau's *Journal* of which occurrence in Concord is noted only four times – on July 17, 1852 in Conant's meadow just behind Wheeler's [near Hubbard's Bridge], on August 1, 1852 without specific locale, on July 21, 1853 near Fairhaven Cliffs, and July 30, 1853 -- "If the meadows [Dennis's and John Hosmer's meadows] were untouched, I should no doubt see many more of the rare white and the beautiful smaller purple orchis there, as I now see a few along the shaded brooks and meadow's edge." Jarvis notes this on July 17, 1834 at Merrick's meadow [which included today's Old Calf Pasture], adding that it is very common. This author saw it in the Estabrook Woods -- east of the lime quarries on July 25, 1979, east of Bateman's Pond on July 15, 1981, and near the Thoreau Mill Pond on July 23, 1982 - the last two being the same places mentioned by Hosmer. Voucher specimen in NEBC (and in BEDF) collected by Eaton on August 2, 1930 on the shore of G.[eorge] Root's Ice Pond [Crosby Pond]. Link to image.

Pogonia ophioglossoides (GM8: same; TH: same)

#### ROSE POGONIA

Pratt says this is abundant in swamps. Hosmer calls it common. Eaton says it was formerly locally abundant in sphagnous peats in the river meadows, adding that its habitats are gradually being destroyed. Specimens in Thoreau's herbarium are without date or locality. There are more than 24 references to this in Thoreau's Journal. Jarvis notes this on June 28, 1834 in a meadow in front of E. Hosmer [now Crosby Pond]. Eaton collected this on July 4, 1920 in a sphagnous peaty meadow along the 8<sup>th</sup> hole of the Concord Country Club (BEDF specimen). This author found it in Heywood's Meadow (mostly on the Lincoln side) and in a cranberry thicket in woods behind the courthouse in 1979. On June 17, 2016 Cole Winstanley reported the population size at Heywood's Meadow as over 400 plants, of which at least 40, possibly over 100, were on the Concord side. After finding what appeared to be fruit of this during the preceding winter, Cole Winstanley found in June 2016 a large colony of this at Mink Pond in the Estabrook Woods with well over 2,500 plants of which 964 were counted in blossom. In 2021 Cherrie Corey reported that this had increased to become occasional. Voucher specimen in NEBC collected by Edward Hoar in 1878 or 1879 at Owl Swamp [Thoreau's Owl Nest Swamp, now mostly flooded to make a pond]. Link to image.

Spiranthes cernua (GM8: same, excluding variety ochroleuca; TH: same)

#### NODDING LADIES'-TRESSES

Pratt says this is common in wet grassy places. Hosmer calls it common. Eaton also says it is common. Specimens in Thoreau's herbarium are without date or locality. There are about 10 references to this in Thoreau's *Journal*, including possibly the rare Spiranthes ochroleuca. Eaton collected this on September 15, 1928 on the shore of Goose Pond on his woodlot (BEDF specimen). This author found it to be scarce – in a low area west of Meriam's Hill on September 13, 1979 and in the vicinity of 2<sup>nd</sup> Division Brook. On Aug. 24, 2015 Cole Winstanley found a sizable colony around the sandy, boggy pond off of Macone Farm Lane that had just recently started flowering with 43 flowering spikes. On Sept. 13, 2015 Cole Winstanley found one of these in flower on the town line with Sudbury just west of the

railroad tracks, the northern edge of a larger colony in Sudbury. In October 2015 Cole Winstanley found a few plants of this on the small island in Goose Pond. Voucher specimen in NEBC collected by Edward Hoar in August 1879 at "Conantum Cliff [Hoar's name for Martha's Point], moist pasture, near spring." Link to image.

Spiranthes lacera var. lacera (GM8: same; TH: not distinguished from "Spiranthes gracilis," "Goodyera gracilis" or "Neottia gracilis" in the manuals used by Thoreau)

NORTHERN SLENDER LADIES'-TRESSES

Pratt and Hosmer say "Spiranthes gracilis" is common, which includes both varieties of Spiranthes lacera. Eaton calls it frequent. Specimens in Thoreau herbarium without date or locality. There are about 12 references in Thoreau's *Journal* to this, which would include the related less common Spiranthes lacera var. gracilis. Voucher specimen in NEBC collected by Edward Hoar on July 27 (no year) at "Roadside near Jenny Dugan's - dry ground, partial shade." Link to image.

Spiranthes lacera var. gracilis (GM8: Spiranthes gracilis; TH: Spiranthes gracilis, Goodyera gracilis, Neottia gracilis, including Spiranthes lacera var. lacera which was not distinguished in the manuals used by Thoreau)

#### SOUTHERN SLENDER LADIES'-TRESSES

Pratt and Hosmer say "Spiranthes gracilis" is common, which includes both varieties of Spiranthes lacera. Eaton calls it uncommon. Specimens in Thoreau herbarium without date or locality. There are about 12 references to this, including the related more common Spiranthes lacera var. lacera in Thoreau's *Journal*. Voucher specimen in NEBC collected by Edward Hoar on September 3, 1857 in "Oak meadow" [now Mink Pond in the Estabrook Woods]. Link to image.

Spiranthes ochroleuca (GM8: Spiranthes cernua var. ochroleuca; TH: not scientifically described until 1932)

This species would not have been distinguished from Spiranthes cernua by Pratt, Hosmer and Thoreau. Eaton says this is rare. No specimen in Thoreau herbarium. Voucher specimen in NEBC collected by Eaton on September 17, 1930 in dry, oak woods recently burned on west side of Goose Pond. Link to image.

**Poaceae** (GM8: Gramineae; TH: Gramineae) -- Pratt does not treat this family & Hosmer lists only three species

AGROSTIS CANINA (GM8: same: TH: same)

**VELVET BENT** 

Eaton says this is uncommon. Thoreau collected a specimen on July 6, 1859 at the "wettest part of the path below witch-hazel [at] Conantum." There is no reference to this species in Thoreau's *Journal*. Edward Hoar collected specimens on July 8 (no year) on "dry open hill up North Branch [Assabet River]" and on July 18 (no year) at "Dry edge of bog, Ball's Meadow, east of Miss Pritchard's." William Brace collected this on July 18, 1997 in a wet meadow at "Bovey bk." [brook at 206 Estabrook Road] (NEBC specimen). Voucher specimen in NEBC is Thoreau's collection of this. Link to image.

AGROSTIS CAPILLARIS (GM8: Agrostis tenuis; TH: Agrostis alba (in part), Agrostis vulgaris (in part)

#### RHODE ISLAND BENT

Eaton says this is common. No specimen in Thoreau herbarium. There is a possible reference to this in Thoreau's *Journal* on July 1, 1859 with no locality under the names Agrostis alba and Agrostis vulgaris and also a possible reference with no locality on September 6, 1858

under the name "white bent." Eaton collected this August 2, 1930 along a dry wood road on his wood-lot [next to Goose Pond] (BEDF specimen). William Brace collected this on June 25, 1996 at 49 Liberty Street (NEBC specimen). Voucher specimen in NEBC collected by Walter Deane on July 5, 1887 along a roadside. Link to image.

AGROSTIS GIGANTEA (GM8: Agrostis alba var. alba; TH: Agrostis vulgaris (in part), Agrostis alba (in part))

REDTOP

Eaton says this is common. Specimen in Thoreau herbarium collected in June [no year] in "river meadows and islands." There are about 20 references to this in Thoreau's *Journal* primarily under the name "Red-top," but these could also refer to Agrostis capillaris. Edward Hoar collected this on July 22 (no year) along Thoreau Street (NEBC specimen). William Brace collected this in a wet meadow apparently west of Keyes Pond (just north of 49 Liberty Street) on July 4, 1995 and on July 3, 1996 in a wet field at 49 Liberty Street (the latter in NEBC). Voucher specimen in NEBC is Thoreau's collection of it. Link to image.

Agrostis perennans (GM8: same, including var. aestivalis; TH: same) AUTUMN BENT

Eaton says this is frequent. Specimens in Thoreau herbarium collected on September 5 (no year) at Walden Pond on a bank, and as (identified by Edward Hoar) on June 16, 1859 abundant on Island below French's [French's Rock, the island likely the high ground of the current Minuteman statue at the Old North Bridge]. Thoreau's *Journal* refers to it on September 5, 1858 at Walden Pond and also at Brister's Spring. The only other reference in the *Journal* (other than on September 7, 1858 noting the September 5 occurrence) is on July 7, 1859 at Great Meadows where he is unsure whether it is this species or Agrostis scabra. Edward Hoar collected this on July 9 (no year) at the Hemlock Bank on the North Branch [Assabet River] (NEBC specimen). Eaton collected this on August 6, 1958 in a shaded crevice of a dioritic ledge at Conantum, and on September 17, 1961 on a shaded alluvial bank of the Assabet River near the mouth of Spencer Brook about ½ mile upstream from Edward Hoar's station (both NEBC specimens). Voucher specimen in NEBC is Thoreau's collection of this on September 5, 1858. Link to image.

Agrostis scabra (GM8: same, Agrostis hyemalis - misapplied; TH: same (in part)) FLY-AWAY GRASS

Eaton says this is common. Specimens in Thoreau herbarium from Concord collected on September 7, 1858 on the flat hill south of Abel Hosmer, and on June 29, 1859 on a higher ridge in E.[dmund] Hosmer's meadow. There are about 12 references to this in Thoreau's *Journal* including on the date of his 1858 collection of it, and reference to the 1859 collection on July 3. Thoreau labeled these Agrostis scabra, but at the time of accession by the NEBC they were identified as Agrostis hyemalis (which at the time is mostly what is now treated as Agrostis scabra, not the modern sense of Agrostis hyemalis which is uncommon or rare in eastern Massachusetts and has not definitely been found in Concord). Eaton treats these as Agrostis scabra. F.C. Seymour and S.D. Robbins collected this on July 5, 1916 in a meadow along the Assabet River (GH specimen). Eaton collected this on August 2, 1930 along a dry wood road in the vicinity of Goose Pond, and on July 10, 1957 in moist sand along the middle dyke of Great Meadows National Wildlife Refuge (both BEDF specimens, the latter one filed there as Agrostis hyemalis). William Brace collected this at Great Meadows on the northern side on August 23, 1995. Voucher specimen in NEBC is Thoreau's collection of it on September 7, 1858. Link to image.

AGROSTIS STOLONIFERA var. PALUSTRIS (GM8: Agrostis alba var. palustris; TH: Agrostis alba, as an unnamed variety)

#### **CREEPING BENT**

Eaton says this is not common. No specimen in Thoreau herbarium. There are no certain references to this in Thoreau's *Journal*. Voucher specimen in NEBC collected by Eaton on August 7, 1932 in a wet slough of Wheeler's Meadow east of Nashawtuc Hill [river meadow by Nashawtuc Bridge]. Link to image.

Alopecurus aequalis var. aequalis (GM8: same; TH: Alopecurus aristulatus)
Eaton says this is uncommon. No specimen in Thoreau herbarium. The only *Journal* reference to this is on July 14, 1860 but the location in Concord is not certain, perhaps "Pratt's Pond side." stated without context immediately after the reference. Eaton collected this on August 2, 1930 on a wood lot [probably his own] at Goose Pond (BEDF specimen). Voucher specimen in NEBC collected by Horace Mann, Jr. on June 15, 1862 with no locale within Concord given. Link to image.

ALOPECURUS GENICULATUS var. GENICULATUS (GM8: same; TH: same)
MARSH FOXTAIL

Eaton says this is uncommon. Specimen in Thoreau herbarium collected on July 7, 1859 at "Great Meadows path by ditch 20 rods E.[ast] of rocky island." The only reference to this in his *Journal* is on June 22, 1860 also in the Great Meadows path. Voucher specimen in NEBC is Thoreau's collection of it. <u>Link to image</u>.

ALOPECURUS PRATENSIS (GM8: same; TH: same)

#### MEADOW FOXTAIL

Eaton says this is common. Specimen in Thoreau herbarium collected on May 25, 1859. Thoreau's *Journal* for this date states "Meadow fox-tail grass abundantly out (how long?), front of E.[dmund] Hosmer's by and in E.[benezer] Hubbard's meadow, front of meeting-house." Thoreau's *Journal* also refers to this species on May 10, 1860 without locale. The only other reference on May 24, 1855 at [Ellery] Channing's bank [at Sudbury River behind his residence] is also most likely this species. William Brace collected this on May 10, 1998 in a wet meadow at 49 Liberty Street (NEBC specimen). Voucher specimen in NEBC is Thoreau's collection of it. Link to image.

Andropogon gerardiisubsp. gerardii (GM8: same; TH: Andropogon furcatus)

Eaton says this is not common. No specimen in Thoreau herbarium. Thoreau refers to this in his *Journal* on August 25, 1858 (but apparently this reference is to the closely related Schizachyrium scoparium based on a specimen in his herbarium collected that day at the same place), on September 11, 1859 apparently at Great Fields, and on August 12, 1860 in a meadow of uncertain locale. Edward Hoar collected this in September 1858 at the foot of his garden near the river [Sudbury River] (NEBC specimen). William Brace collected this in a dry meadow north of the Old Manse on August 18, 1995 and again at the same site on July 21, 1998 (latter specimen in NEBC). Cole Winstanley reported finding a single clump of this in an overgrown old house lot never built upon west of Westford Road and east of Spencer Brook in Aug. 2015. Voucher specimen in BEDF collected by Eaton along a railroad track east of the Filter Beds in dry, sandy soil August 29, 1938. Image not available.

Anthoxanthum hirtum (GM8: Hierochloë odorata (in part); TH: Hierochloa borealis (in part)) SWEETGRASS

Eaton says this (as Hierochloë odorata) is rare, which includes Anthoxanthum nitens. No specimen in Thoreau herbarium or reference to it in his *Journal*. Edward Hoar collected this and what has been identified as Anthoxanthum nitens in the same places. Voucher specimen

in NEBC collected by Edward Hoar on May 22, 1858 at the foot of his garden and at Egg Rock. Link to image.

Anthoxanthum nitens subsp. nitens (GM8: Hierochloë odorata (in part); TH: Hierochloa borealis (in part))

#### **SWEETGRASS**

Eaton says this (as Hierochloë odorata) is rare, which includes Anthoxanthum hirtum. No specimen in Thoreau herbarium or reference to it in his *Journal*. Edward Hoar collected this and what has been identified as Anthoxanthum hirtum in the same places. Voucher specimen in NEBC collected by Edward Hoar on May 22, 1858 at the foot of his garden and at Egg Rock. Link to image.

ANTHOXANTHUM ODORATUM subsp. ODORATUM (GM8: same; TH: same) SWEET VERNAL GRASS

Eaton says this is very common. Hosmer says it is common. Specimen in Thoreau herbarium collected on September 13, 1858 in Heywood's potato-field. Thoreau refers to the grass on this date in his *Journal*, but not knowing what it is. There are about four references specifically to this in Thoreau's *Journal*. On May 5, 1860 he refers to it at Lee's Cliff and (parenthetically) common at Damon's Spring. Three other general references are without locale. Eaton collected this (as Anthoxanthum puellii) on May 30, 1932 in rocky, open woods at Martha's Point (NEBC specimen). William Brace collected this in a wet meadow west of 49 Liberty Street on May 3, 1995, and also on June 1, 1997 at the same location (latter specimen in NEBC). Voucher specimen in NEBC is Thoreau's collection of it. <u>Link to image</u>.

Aristida dichotoma var. dichotoma (GM8: same; TH: same)
POVERTY-GRASS

Eaton says this is rather common. Specimen in Thoreau herbarium collected on September 7, 1858 on the railroad between tracks above Red House [near where current Baker Avenue crosses the Fitchburg railroad]. Thoreau's *Journal* entry notes this on that date. His only other reference to this is on August 25, 1858 with uncertain identification or locale. Edward Hoar collected this on September 12 (no year) at Conantum Cliff [Hoar's name for Martha's Point] (NEBC specimen). Stanley Smith collected this on November 8, 1969 by railroad tracks at the depot (BEDF specimen). Voucher specimen in NEBC is Thoreau's collection of it. Link to image.

ARRHENATHERUM ELATIUS subsp. ELATIUS (GM8: same; TH: Arrhenatherum avenaceum) TALL OATGRASS

Eaton says this is not common. No specimen in Thoreau herbarium or reference to it in his *Journal*. William Brace collected this in a wet meadow on National Park Service land on August 11, 1995. Voucher specimen in NEBC collected by Edward Hoar on June 21 (no year) at field opposite Mr. Everett's (C. Storr's). Link to image.

AVENA FATUA subsp. FATUA (GM8: same; TH: not treated in the manuals used by Thoreau) Eaton does not list this. No specimen in Thoreau herbarium or reference to it in his *Journal*. Voucher specimen in NEBC collected by William Brace on July 16, 1998 in a dry meadow or field at the corner of the Old Road to Nine Acre Corner and Williams Road. <u>Link to image</u>.

AVENA SATIVA (GM8: same; TH: same)

Eaton says this is frequent. Specimen in Thoreau herbarium collected on July 13, 1859 with no other information. There is no *Journal* entry for this date. His only *Journal* reference is on July 13, 1856 where the apparent location is Hubbard's euphorbia pasture. Voucher specimen in NEBC is Thoreau's collection of it, but a proper specimen collected in the wild is needed. Link to image.

Avenella flexuosa (GM8: Deschampsia flexuosa; TH: Aira flexuosa) COMMON HAIR-GRASS

Eaton says this is common. Specimen in Thoreau herbarium collected on June 26, 1860 at Hemlock bank [at Assabet River]. His *Journal* for that date states that he found it "Under the Hemlocks, on the bare bank, ..." This is his only *Journal* reference to occurrence in Concord. Edward Hoar also collected this at "Hemlock Bank" on July 9, 1874 (NEBC specimen). Eaton collected this on July 26, 1858 in open, dry woods on the north side of Nashawtuc Hill (BEDF specimen). William Brace collected this on July 2, 1997 in a wet meadow or field in the musterfield at Minute Man National Historical Park (NEBC specimen). Voucher specimen in NEBC is Thoreau's collection of it. Link to image.

Brachyelytrum aristosum (GM8: Brachyelytrum erectum var. septentrionale; TH: Brachyelytrum aristatum)

Eaton says this is rare, only at two stations. No specimen in Thoreau herbarium and only one reference to this in his *Journal*, on July 1, 1860 but without specific locale. Edward Hoar collected this on September 10 [no year] in "Great swamp North Branch [Assabet River] brookside near great Hemlock dark shade" (NEBC specimen). Eaton collected this on July 2, 1956 in swampy woods on the north side of the Cambridge Turnpike at G. Root's Ice Pond [Crosby Pond], and on August 14, 1957 at the bottom of a steep, wooded glacial esker south of the 8<sup>th</sup> hole of the Concord Country Club (both BEDF specimens). William Brace collected this on June 30, 1997 at the edge of a trail in wet woods in the Old Rifle Range conservation land (NEBC specimen). Voucher specimen in NEBC collected by Edward Hoar on July 25 [no year] at "North Branch [Assabet River] shore just beyond Hurd's hill [Nashawtuc Hill] moist shade end of stone wall in gully." Link to image.

Bromus ciliatus (GM8: same, including var. intonsus; TH: same) FRINGED BROME

Eaton says this is infrequent. Specimens in Thoreau herbarium collected on July 22, 1860 at Paint[ed] Cup slope [south side of Annursnack Hill], and on July 28, 1860 at Paint[ed] Cup Meadow [same site as earlier collection] (both NEBC specimens). Unpublished passages to this are in Thoreau's *Journal* on both dates. Edward Hoar collected this (no date) at wall of Painted Cup Meadow (NEBC specimen). Eaton collected this on July 2, 1956 in swampy woods (BEDF specimen). Voucher specimen in NEBC is Thoreau's July 22, 1860 of it. <u>Link to image</u>.

BROMUS COMMUTATUS (GM8: same; TH: not treated in the manuals used by Thoreau) Eaton lists this in an appendix as probably in Concord, likely because he collected this in neighboring Lincoln. No specimen in Thoreau herbarium or reference to it in his *Journal*. William Brace collected this on May 10, 1998 at 49 Liberty Street (NEBC specimen). Voucher specimen in NEBC collected by William Brace on June 27, 1997 in a dry field at Thoreau's birthplace, Brace identifying it as Bromus racemosus, but which this author has identified as Bromus commutatus. Link to image.

BROMUS HORDEACEUS subsp. HORDEACEUS (GM8: Bromus mollis; TH: Bromus mollis) Eaton lists this in an appendix as unlikely in Concord. No specimen in Thoreau herbarium or reference to it in his *Journal*. Voucher specimen in NEBC collected by William Brace on June 13, 1999 in a disturbed wet meadow or field at the corner of Liberty Street and Lowell Road. Link to image.

BROMUS INERMIS (GM8: same; TH: not treated in the manuals used by Thoreau.) HUNGARIAN BROME

Eaton does not list this. No specimen in Thoreau herbarium. William Brace collected this in a roadside field south of 49 Liberty Street on June 16, 1995, and at the same site on July 9,

1996 (latter specimen in NEBC). See Appendix F for image of 1995 specimen. Voucher specimen in NEBC collected by William Brace on June 23, 1997 in a disturbed, wet meadow, Soutter meadow [apparently on property at the corner of Sudbury Road and Route 2]. <u>Link</u> to image.

BROMUS SECALINUS (GM8: same; TH: same) CHEAT

Eaton says this is occasional. Specimen in Thoreau herbarium collected on June 27, 1860 in J.[acob] Farmer's barley. Thoreau's only *Journal* references to it are on this date and on June 30, 1860 by Walden [Pond]. Eaton collected this on June 29, 1958 along the roadside of Barrett's Mill Road where it covered a large area at the edge of a loamy cultivated field (BEDF specimen). William Brace collected this on June 26, 1998 in a wet field in the Nine Acre Corner area (NEBC specimen). Voucher specimen in NEBC is Thoreau's collection of it. Link to image.

BROMUS TECTORUM (GM8: same; TH: not treated in the manuals used by Thoreau) DOWNY CHESS

Eaton says this is casual, as yet. No specimen in Thoreau's herbarium or reference to it in his *Journal*. William Brace collected this on June 24, 1997 at a dry road edge near "Fairyland" [either Fairyland Pond in the Town Forest or the Town Forest itself] (NEBC specimen). Laurence Richardson collected this on May 12, 1961 along Barrett's Mill Road (BEDF specimen). Voucher specimen in NEBC collected by Eaton on July 10, 1958 in dry, sandy, disturbed soil, at middle dam, on Second Division Brook, of Musketaquid Sportsmen's Club - a single clump. Link to image.

Calamagrostis canadensis var. canadensis (GM8: same; TH: same)

Eaton says this common. Specimens in Thoreau herbarium from Concord were collected on September 2 (no year given) [most likely 1858 based on *Journal* evidence] at Poke Logan [along the Assabet River] and on June 28 at Poke Logan with year not legible. There are about 10 references in Thoreau's *Journal*. Eaton collected this on July 25, 1969 in the river meadow beside Nashawtuc Road (NEBC specimen), on September 13, 1957 southeast of G. Root's Pond [Crosby Pond] (BEDF specimen), and on July 30, 1960 at the edge of the river at Great Meadows (specimen at Colgate University). William Brace collected this in a wet meadow, apparently west of the Keyes Pond (just north of 49 Liberty Street), on July 4, 1995, and on July 9, 1996 at Keyes Brook [near 49 Liberty Street] (latter specimen in NEBC). Voucher specimen in NEBC is Thoreau's September 2 collection of it. Link to image.

Calamagrostis coarctata (GM8: Calamagrostis cinnoides; TH: same)

Eaton says this is uncommon. Specimen in Thoreau herbarium collected on August 26 (no year given) [in 1858 based on an unpublished *Journal* passage of September 4, 1858 referring back to it] at Hubbard's orchard path. There are three references to this in Thoreau's *Journal*. On August 24, 1859 he notes it not quite in blossom at end of Hubbard's meadow wood-path. On August 27, 1860 he refers to it at Harrington's Pool at Ministerial Swamp. On August 13, 1860 he mentions it on his way to or at Great Meadows and Gowing's Swamp. Edward Hoar collected this on August 28 (no year) "by Mr. Stow's meadow west of Thoreau St." (NEBC specimen). Eaton collected this on August 24, 1930 at the Concord Country Club in a boggy field near the 8<sup>th</sup> hole (BEDF specimen). Voucher specimen in NEBC is Thoreau's collection of it. Link to image.

CENCHRUS LONGISPINUS (GM8: Cenchrus pauciflorus; TH: not treated in the manuals used by Thoreau)

#### FIELD SANDBUR

Eaton's does not list this. No specimen in Thoreau herbarium. Voucher specimen in NEBC collected by this author and James Hinds on September 20, 1981 along a sandy roadside of Route 2 beside the Emerson Hospital parking lot near the bridge across the Sudbury River. Link to image.

Cinna arundinacea (GM8: same; TH: same) COMMON WOODREED

Eaton says this is common. Specimen in Thoreau herbarium collected on September 1, 1859 in Saw Mill Brook [which is in both Concord and, more likely, Lincoln]. There are three references to this in Thoreau's *Journal*. On September 2, 1858 refers to it at Pokelogan at the Assabet River, and on August 1, 1860 at an unspecified locale in a different part of town. Eaton collected this on August 17, 1957 in a moist opening in low woods on the east side of Bateman's Pond in the Estabrook Woods (BEDF specimen). William Brace collected this at a woodland edge in the flood plain on National Park Service land below a house lot, and on September 16, 2001 on the same land in a wet meadow or field near the Sudbury River (latter specimen in NEBC). Voucher specimen in NEBC collected by Edward Hoar on September 10 (no year) in a swamp northwest of Egg Rock on North Branch [Assabet River]. Link to image.

Coleataenia rigidula subsp. rigidula (GM8: Panicum agrostoides var. agrostoides; TH: Panicum agrostoides)

Eaton says this is frequent. Specimen in Thoreau herbarium collected on September 6, 1858 on a riverbank. Thoreau's *Journal* entry for this date indicates that he was at the Assabet River. Only one of two references to this grass in Thoreau's *Journal* indicate a locality -- the Assabet River on August 30, 1860. William Brace collected this in a wet meadow, apparently to the north and west of Keyes Pond (just north of 49 Liberty Street), where it was abundant, on August 8, 1995 and at the National Park Service musterfield on September 16, 2001 (latter specimen in NEBC) . Voucher specimen in NEBC is Thoreau's collection of it. Link to image.

DACTYLIS GLOMERATA subsp. GLOMERATA (GM8: same; TH: same) ORCHARD-GRASS

Eaton says this is common. No specimen in Thoreau herbarium or reference to this in his *Journal*. The absence of collections by Thoreau and Edward Hoar and absence from mention in Thoreau's *Journal* is curious. Dame and Collins in their *Flora of Middlesex County, Massachusetts* (1888) also say it is common. William Brace collected this in a wet meadow on the western side of 49 Liberty Street on May 10, 1995. Voucher specimen in NEBC collected by Eaton on June 8, 1957 along a roadside in dryish ground. Link to image.

Danthonia compressa (GM8: Danthonia allenii; TH: not scientifically described until 1872) Eaton says this is rare. Specimens in Thoreau herbarium collected on September 8, 1858 at Poke-logan meadow by the Assabet River with specimen notes "looks like Flint's meadow oat grass" and "Danthonia spicata? or Avena striata [Schizachne purpurascens]," and on June 13, 1859 at Emerson's dry Lespedeza path with Danthonia spicata crossed out and Festuca ovina written above. An unpublished passage of Thoreau's Journal for September 8, 1858 reads "Is that short grass of the Poke-logan meadow just E. of the grove <u>Danthonia spicata?</u> -- or <u>Avena striata?</u> -- mostly quite done --," and on September 15, 1858 in his Journal he refers to the "meadow oat grass" of Hosmer's meadow which would be his collection of September 8, 1858. William Brace collected this in dry woods at Walden Pond on July 4,

1994 (see Appendix F for image of specimen), and on July 12, 1996 at Rasmussen Brook [Dakin's Brook] (latter specimen in NEBC). Voucher specimen in NEBC is Thoreau's September 8, 1858 collection of it. Link to image.

Danthonia spicata (GM8: same; TH: same)

#### **POVERTY OAT-GRASS**

Eaton says this is very common. Specimen in Thoreau herbarium from Concord was collected on June 18, 1859 (mistakenly transcribed as Nov. 18 by Edward Hoar) at "Flint tree" [likely the "swimming-elm" by the Concord River refered to in his *Journal* on March 12, 1855 near John Flint's]. An unpublished passage of Thoreau's *Journal* for this date reads "The danthonia spicata appears to be my curled grass of the pastures -- now abundant in bloom -- though not long." There are about three references to this in Thoreau's *Journal*. The only published *Journal* reference to a Danthonia at a particular location is on September 15, 1858 at Brister's Path, and is almost certainly to Danthonia spicata (rather than to the much less common and then scientifically undescribed Danthonia compressa), particularly since he recognizes on this date a difference with the Danthonia compressa (his "meadow oat grass") that he collected a week earlier. Eaton collected this on June 29, 1958 on the north side of Warner's Pond (NEBC & BEDF specimens). William Brace collected this on June 26, 1996 at roadside at "Bovey, E rd." [206 Estabrook road] (NEBC specimen). Voucher specimen in NEBC is Thoreau's collection of it. Link to image.

Dichanthelium acuminatum var. acuminatum (GM8: Panicum meridionale, Panicum lanuginosum (typical), Panicum lanuginosum var. implicatum + others not found in Concord; TH: not scientifically described until 1898, would have been treated as Panicum dichotomum in Thoreau's time)

Eaton says this is rare. No specimen in Thoreau herbarium. Eaton collected this on August 15, 1930 on the sandy shore of the island in Goose Pond (NEBC specimen), and on July 7, 1964 in disturbed soil in a glade in low woods west of Garfield Road (BEDF specimen, both filed as Dichanthelium acuminatum subsp. implicatum). William Brace collected this on June 26, 1996 at Great Meadows National Wildlife Refuge, on July 12, 1996 at Rasmussen Brook [Dakin's Brook], and on June 23, 1997 on the dry, sandy plain near Second Division Brook [for which this author has coined the name Second Division Mesa] (all these NEBC specimens, filed as Dichanthelium acuminatum subsp. implicatum except the 1997 specimen). Voucher specimen in NEBC (filed as Dichanthelium acuminatum subsp. implicatum) collected by Eaton on September 17, 1961 in a sand barren at Jenny Dugan Desert at Old Marlboro Road and railroad crossing. Link to image.

Dichanthelium acuminatum var. densiflorum (GM8: Panicum spretum; TH: Panicum spretum, but not treated in the manuals used by Thoreau, would have been treated as Panicum dichotomum by him)

Eaton says this is common. Specimens in Thoreau herbarium collected on June 26 (no year and no locality) labeled by him "Panicum dichotomum," and on September 7, 1858 without locality and labeled by him "Panicum clandestinum." From the *Journal* entry for September 7, 1858 the locality is Shad-bush Meadow. Edward Hoar collected this on July 10 (no year) at Ball's [Hill] meadow and noted by him as "also opp.[osite] Cliffs" (NEBC specimen). Eaton collected this on August 7, 1932 in a wet river meadow in Wheeler's Meadow (BEDF specimen). Voucher specimen in NEBC (filed as Dichanthelium acuminatum subsp. spretum) is Thoreau's collection of it on September 7, 1858. Link to image.

Dichanthelium acuminatum var. fasciculatum (GM8: Panicum lanuginosum var. fasiculatum; TH: not scientifically described until 1898, would have been treated as Panicum dichotomum in Thoreau's time)

Eaton says this is common. No specimen in Thoreau herbarium. Voucher specimen in BEDF collected by Eaton on August 22, 1929 in a wet sand-flat at White Pond. Image not available.

Dichanthelium acuminatum var. lindheimeri (GM8: Panicum lanuginosum var. lindheimeri; TH: not scientifically described until 1897, would have been treated as Panicum dichotomum in Thoreau's time)

Eaton says this is apparently rare. No specimen in Thoreau herbarium. Eaton collected this on July 16, 1961 in gravelly railroad ballast along the railroad track near Walden Pond (MASS specimen). Voucher specimen in NEBC collected by Eaton on August 1, 1957 on a moist, rocky beach on the shore of the Sudbury River at Martha's Point. Link to image.

Dichanthelium boreale (GM8: Panicum boreale; TH: not scientifically described until 1895, would have been treated as Panicum dichotomum in Thoreau's time)

Eaton says this is occasional. No specimen in Thoreau herbarium. William Brace collected this on June 25, 2001 in a wet meadow or marshy area at "Rasmussen bk." [Dakin's Brook] (NEBC specimen). Voucher specimen in NEBC collected by Eaton on July 2, 1956 in swampy woods north of G. Root's Ice Pond [Crosby Pond]. Link to image.

Dichanthelium clandestinum (GM8: Panicum clandestinum; TH: Panicum clandestinum) Eaton says this is frequent. None of the specimens in Thoreau's herbarium identified by him as this species have turned out to be correct, so that none of his four references to this in his *Journal* can be considered reliable. William Brace collected this on June 25, 1996 in a wet field at his property at 49 Liberty Street (NEBC specimen). Voucher specimen in NEBC collected by Eaton on September 10, 1956 in a wet, gravelly excavation at the edge of low oak woods at the end of the middle dyke at Great Meadows. Link to image.

Dichanthelium depauperatum (GM8: Panicum depauperatum, including var. psilophyllum; TH: Panicum depauperatum)

Eaton says this is common. Specimen in Thoreau herbarium collected on June 13, 1859 along Lespedeza path of Ralph W. Emerson. No references to this in Thoreau's *Journal*. John and Charlotte Reeder collected this (filed as Panicum depauperatum) among small oaks in a burned area near Walden Pond (Yale University specimen). Eaton collected this on June 29, 1958 in dirty, sandy gravel on the north side of Warner's Pond, and on June 29, 1959 on a dry, rocky knoll on a dioritic outcropping on the west side of Garfield Road (both BEDF specimens). Eaton also collected this on June 20, 1959 in dry, sandy soil at the edge of a cart path at the foot of Annursnack Hill on the south side (Brown University specimen). William Brace collected this on June 20, 1998 at "2<sup>nd</sup> div. bk., "mesa" [an open, dry, raised sandy plain near Second Division Brook for which this author coined the name "Second Dovision Mesa"] (NEBC specimen). Voucher specimen in NEBC is Thoreau's collection of it. Link to image.

Dichanthelium dichotomum var. dichotomum (GM8: Panicum dichotomum var. dichotomum; TH: Panicum dichotomum, including many other species now recognized)
Eaton says this is common. Specimen in Thoreau herbarium collected on June 30, 1859 in Hosmer meadow. No references to this in his *Journal*. John and Charlotte Reeder collected this (filed as Panicum dichotomum) on June 9, 1946 in sandy soil in the shade of Pinus strobus on a slope above Walden Pond (Yale University specimen). Eaton collected this on July 31, 1958 in woods east of Strawberry Hill Road in thin, dry soil of the slope of a granitic ledge

(NEBC and BEDF specimens). Voucher specimen in NEBC is Thoreau's collection of it. <u>Link to image</u>.

Dichanthelium latifolium (GM8: Panicum latifolium; TH: Panicum latifolium)
Eaton says this is apparently rare. Specimen in Thoreau herbarium collected on June 25 (no year) just south of the wall at Bittern Cliff [Martha's Point], with reference to it in his *Journal* on June 25, 1858 at this location. An additional Thoreau label without a plant name that Edward Hoar mounted with this single specimen refers to a collection on June 15, 1858 in "Whorled pogonia field." Thoreau's *Journal* for this date does not mention this plant or location. This label likely belongs to another specimen. But Edward Hoar transcribes both labels under "Panicum latifolium" on his mounting of this specimen. The other four references to this in Thoreau's *Journal*, all in wet habitats, are almost certainly misidentifications since this is a grass of dry, open rich woods. Voucher specimen in NEBC is Thoreau's collection of it. Link to image.

Dichanthelium linearifolium (GM8: Panicum linearifolium, including var. werneri; TH: not scientifically described until 1898, would have been treated as Panicum depauperatum in Thoreau's time)

Eaton says this is common. No specimen in Thoreau herbarium. Eaton collected this on July 16, 1961 on the dry, gravel embankment at the edge of the railroad track near Walden Pond (MASS specimen). William Brace collected this on June 24, 1997 in a sand pit at the intersection of Routes 2 and 126, identification confirmed by Anton Reznicek (NEBC specimen). Voucher specimen in NEBC collected by Eaton on June 22, 1930 in open dry ground near Goose Pond. Link to image.

Dichanthelium oligosanthes var. oligosanthes (GM8: Panicum oligosanthes var. scribnerianum; TH: not scientifically described until 1895, would have been treated as Panicum xanthophysum in Thoreau's time)

Eaton says this is frequent. Specimens in Thoreau herbarium collected on September 1, 1858 (locale not legible, but referred to in his Journal as Panicum clandestinum while in Concord "On dry land, common, but getting stale"), on June 12, 1859 at New Burying Ground wall, and on June 13, 1860 with no locale within Concord, but referred to in an unpublished passage in his Journal for that date in Concord. John and Charlotte Reeder collected this (filed as Panicum oligosanthes) on June 9, 1946 on a sandy bank just above Walden Pond where common (Yale University specimen). Eaton collected this on July 8, 1957 in sandy loam of a fallow field at Clamshell Bluff (BEDF specimen), on June 20, 1959 in dry, sandy soil at the edge of scrubby woods at the foot of Annursnack Hill on the south side (Brown University specimen), on September 17, 1961 in a sandy, fallow field where dominant on Old Marlboro Road ¼ [mile] west of the railroad (BEDF specimen), on July 9, 1961 in a dry sandy field on Ball's Hill Road (BEDF specimen), and found it on July 12, 1960 at a sandy margin of a field near the Assabet River. Laurence Richardson collected it on June 8, 1960 at roadside on Strawberry Hill Road (BEDF specimen). William Brace collected this on June 26, 1996 at roadside at "Bovey, E rd." [206 Estabrook road], identification confirmed by Anton Reznicek, and on June 24, 1997 at the intersection of Routes 2 and 126 (NEBC specimens, filed as Dichanthelium oligosanthes subsp. scribnerianum). Voucher specimen in NEBC is Thoreau's collection of it on June 12, 1859. Link to image.

Dichanthelium portoricense (GM8: Panicum columbianum; TH: not scientifically described until 1897, would have been treated as Panicum dichotomum in Thoreau's time)
Eaton says this is frequent in the Ball's Hill area. No specimen in Thoreau herbarium. John and Charlotte Reeder collected this on June 9, 1946 (filed as Panicum columbianum) in exposed sandy soil on a bank of Walden Pond (Yale University specimen). Eaton collected this

on June 20, 1959 in dry, sandy soil at the edge of scrubby woods at the foot of Annursnack Hill south side (Brown University specimen), on July 9, 1961 in a dry, sandy field near the end of Ball's Hill Road (NEBC specimen), and June 29, 1958 in dry, sandy gravel among pitch pines on the north side of Warner's Pond near an old railroad track to Lowell (BEDF specimen). William Brace collected this on June 20, 1998 in the "mesa" [dry, open, sandy, raised plain; "Second Division Mesa" coined by this author] near Second Division Brook, and also on June 6, 1998 at Second Division Brook (the latter in NEBC). Voucher specimen in NEBC (and at MASS) collected by Walter Deane on September 23, 1911 in damp, shaded soil at Ball's Hill (filed as Dichanthelium acuminatum subsp. columbianum). Link to image.

Digitaria filiformis var. filiformis (GM8: same; TH: Panicum filiforme) SLENDER CRABGRASS

Eaton says this was formerly at scattered stations but is now rare. Specimen in Thoreau herbarium collected on September 6, 1858 at "Corner road side beyond brook ap[parently] with [Digitaria] sanguinale." This occurrence is noted on this day in Thoreau's *Journal*. There are three references to this in Thoreau's *Journal*. On September 12, 1858 he notes that it is very abundant in the old mullein-field of Potter's by the Corner road. Edward Hoar collected this on September 20 (no year) at the shores of Sam Hoar's Pond [Fairyland Pond in Town Forest] (NEBC specimen). Eaton collected this August 29, 1938 in railroad ballast east of the filter beds (NEBC and BEDF specimens). Voucher specimen in NEBC is Thoreau's collection of it. Link to image.

DIGITARIA ISCHAEMUM var. ISCHAEMUM (GM8: same; TH: Panicum glabrum) SMOOTH CRABGRASS

Eaton says this is becoming common. No specimen in Thoreau herbarium. Sole reference to this in Thoreau's *Journal* was questioned by Thoreau at the time, but he correctly identified the specimen he collected as not this but as Panicum sanguinale [Digitaria sanguinalis]. Voucher specimen in NEBC (and in BEDF) collected by Eaton on October 5, 1958 in a weedy lawn at H.B. Hosmer's at Elm Street bridge. <u>Link to image</u>. Voucher collected in the wild needed.

DIGITARIA SANGUINALIS (GM8: same; TH: Panicum sanguinale) COMMON CRABGRASS

Eaton refers to this simply as an obnoxious weed. Specimen in Thoreau herbarium collected on August 12, 1860 in a garden, identified correctly by him, but still questioned ("Is it not P.[anicum] glabrum [Digitaria ischaemum]?"). His *Journal* entry for this date records his uncertainty. There are about nine *Journal* references to this. William Brace collected this on August 4, 1999 at the corner of Liberty Street and Lowell Road (NEBC specimen). Voucher specimen in NEBC collected by Eaton on August 23, 1957 in sunny, roadside gravel at College Road. Link to image.

ECHINOCHLOA CRUS-GALLI var. CRUS-GALLI (GM8: same; TH: Panicum crus-galli) BARNYARD-GRASS

Eaton says this is an abundant weed. Specimen in Thoreau herbarium collected on August 23, 1858 with no locale and no mention in his *Journal* on this date. There are about five references to this in Thoreau's *Journal*. On September 13, 1858 he notes it growing rank and dense being mowed in Heywood's potato field. Voucher specimen in NEBC collected by Emile F. Williams on August 15, 1908. Link to image.

Echinochloa muricata var. muricata (GM8: Echinocloa pungens; TH: not scientifically described until 1915)

Eaton says this is apparently rare. No specimen in Thoreau herbarium. Eaton collected this on September 10, 1956 on the wet, gravelly middle dyke at Great Meadows (BEDF specimen).

William Brace collected this on July 14, 1998 in a wet meadow or field by a stone wall at 49 Liberty Street (NEBC specimen). Cole Winstanley reported finding this at Azalea Brook in August 2015, and also at Great Meadows, near the river at Liberty Street and in a swamp near the one south of Laws Brook Road opposite the west end of Warner's Pond. Voucher specimen in NEBC collected by Eaton on September 19, 1965 on a sandy beach on the south side of Walden Pond. Link to image.

Echinochloa walteri (GM8: same; TH: not distinguished in the manuals used by Thoreau) Eaton says this is abundant at a single station. No specimen in Thoreau herbarium. Cole Winstanley reported seeing scattered plants of this at Great Meadows in Aug. 2015 and also some near the Concord River at Liberty Street. Voucher specimen in NEBC collected by Eaton on September 10, 1956 in moist, sandy gravel at the lower shoulder of an impoundment dyke at Great Meadows. Link to image.

Elymus canadensis var. canadensis (GM8: same; TH: same)

#### CANADA WILD RYE

Eaton lists this only in an appendix as unlikely in Concord. No specimen in Thoreau herbarium or reference to it in his *Journal*. Voucher specimen in GH collected by Edward Hoar on September 5 (no year) on Sunset Rock on Lee's Cliff. <u>Link to image</u>.

Elymus hystrix (GM8: Hystrix patula, including var. bigeloviana; TH: Gymnostichum hystrix) BOTTLEBRUSH-GRASS

Eaton says this is rare. Specimens in Thoreau herbarium collected on September 9, 1858 under the rocks near the slippery elm at Lee's Cliff, and on July 6, 1859 also at Lee's Cliff. These dates are the only references to it in his *Journal*. Edward Hoar collected this on July 21, 1858 on shady hillside at Conantum (NEBC specimen). Eaton collected this on August 1, 1957 on rocky talus under Conantum Cliff [Conantum Cliffs, see this author's *Thoreau Place Names*] (NEBC specimen). The collections of Thoreau, Hoar and Eaton are clearly all part of the same population at the cliffs at Conantum. This author found it also on the talus beneath the Conantum Cliffs in the late 1970s or early 1980s. On July 1, 2016 Cole Winstanley found about 30 plants of this in a rocky swale next to the parking lot for the Town Forest. Since Thoreau, Hoar, Eaton and others would unlikely have missed such a showy grass at this location, it is likely that this was brought in with a pile of coarse crushed rock that this author saw used to construct the present parking lot there in the 1980s. Voucher specimen in NEBC is Thoreau's collection of July 6, 1859. Link to image.

ELYMUS REPENS subsp. REPENS (GM8: Agropyron repens; TH: Triticum repens)
QUACKGRASS

Eaton says this is abundant. No specimen in Thoreau herbarium. There are about eight *Journal* references to this or the closely related Elymus trachycaulis -- the two not being distinguished from each other in the manuals used by Thoreau, but Elymus repens is very much more common. William Brace collected this on July 7, 1996 in a wet field at 49 Liberty Street (NEBC specimen). Voucher specimen in NEBC collected by Eaton on June 29, 1958 in a thicket on a springy bank under Clamshell Bluff near the spring. Link to image.

Elymus trachycaulis subsp. subsecundus (GM8: Agropyron trachycaulum var. glaucum; TH: not distinguished in the manuals used by Thoreau)

#### SLENDER WHEATGRASS

Eaton says this is infrequent with just four stations. Specimen in Thoreau herbarium collected on July 1, 1859 at Major Heywood Path near Second Division Brook. There is no *Journal* reference to it on this date. There are about eight *Journal* references to this or the closely related Elymus repens -- the two not being distinguished from each other in the manuals used by Thoreau, but Elymus repens is very much more common. Edward Hoar

collected this on July 6 (no year) at Conantum Cliff [Hoar's name for Martha's Point] (NEBC specimen). C.H. Swan and C.W. Jenks collected this on July 6, 1888 at Bateman's Pond (NEBC and MASS specimens). Eaton collected this on August 1, 1957 in a dry crevice it at Martha's Point (NEBC and BEDF specimens), and in unpublished notes reports seeing it at Clamshell Bluff near spring hole (no date). Voucher specimen in NEBC is Thoreau's collection of it. Link to image.

Elymus virginicus var. virginicus (GM8: same; TH: same)

Eaton says this is uncommon, at two stations. Specimen in Thoreau herbarium from Concord collected on September 2, 1858 at Poke-logan [along Assabet River], and his *Journal* refers to it at this place on this date. There are two other *Journal* references to it in Concord without locale specified. Edward Hoar collected this on August 20 (no year) on shady, moist land above Egg Rock, and on September 24 (no year) in Egg Rock swamp at the North Branch [Assabet River] (both NEBC specimens). Eaton collected this on September 19, 1968 on a shaded, sloping riverbank [Sudbury River] under Lee's Cliff north of Lee's Bridge (NEBC specimen). William Brace collected this in a wet meadow, apparently to the northeast of Keyes Pond (just north of 49 Liberty Street), on August 8, 1995. Voucher specimen in NEBC is Thoreau's collection of it. Link to image.

ERAGROSTIS CILIANENSIS (GM8: Eragrostis megastachya; TH: Eragrostis poaeoides var. megastachya, Eragrostis megastachya)
STNKGRASS

Eaton lists this only in an appendix as probably in Concord under the name Eragrostis megastachya. No specimen in Thoreau herbarium or reference to it in his *Journal*. William Brace collected this in a dry, sandy field along the Old Road to Nine Acre Corner on September 20, 1995. Voucher specimen in NEBC collected by William Brace on September 11, 2002 at 49 Liberty Street. Link to image. See also Appendix F for image of specimen of 1995 specimen.

Eragrostis pectinacea var. pectinacea (GM8: same; TH: same)

Eaton says this is not common. Specimens in Thoreau's herbarium labeled as this have been identified as the more common Eragrostis spectabilis, which was treated as a variety of Eragrostis pectinacea in the manuals used by Thoreau. There are about seven references in Thoreau's *Journal* to this or Eragrostis spectabilis, most or all of which probably refer to the more common Eragrostis spectabilis. Eaton collected this on August 5, 1961 in moist gravel of the middle dyke at Great Meadows (BEDF specimen). Voucher specimen in NEBC collected by Eaton on September 17, 1961 in waste ground used as area for composting farm refuse at the McGrath farm near the Assabet River. Link to image.

Eragrostis spectabilis (GM8: same, including var. sparsihirsuta; TH: Eragrostis pectinacea var. spectabilis)

#### **PURPLE LOVEGRASS**

Eaton says this is common. Specimens in Thoreau herbarium collected on August 24, 1858 and on September 7, 1858 [relying only on Edward Hoar's transcription for the latter since Thoreau's label missing for this specimen]. Thoreau's *Journal* makes no mention of this plant on August 24, 1858. On August 25, 1858 he refers to it at Money Diggers' Hollow, originally writing "Eragrostis capillaris" in the *Journal* but later changing it to Eragrostis pectinacea. On September 7, 1858 Thoreau found near the little bridge at the foot of Turtle Bank [by the Assabet River] what he believed was true "Eragrostis capillaris" and changes his opinion on the identification of his "Eragrostis capillaris" already in press (presumably the August 24/25 collection) calling it now Eragrostis pectinacea. These specimens have been identified by Walter Kittredge as being the more common Eragrostis spectabilis which was

treated as a variety of Eragrostis pectinacea in the manuals used by Thoreau. There are about seven references in Thoreau's *Journal* to this or Eragrostis pectinacea, most or all of which probably refer to the more common Eragrostis spectabilis. The few other references in Thoreau's *Journal* are not specific as to locale. Eaton collected this on September 9, 1932 in a dry field at Annursnack Hill, and on September 18, 1933 in a sandy field at the Old Cattle Show Grounds (both BEDF specimens). William Brace collected this along a dry roadside at 49 Liberty Street on July 30, 1995 and in a field at the same location on September 5, 1996 (latter specimen in NEBC). Voucher specimen in NEBC is Thoreau's collection of it on August 24/25, 1858. Link to image.

FESTUCA FILIFORMIS (GM8: Festuca capillata; TH: not treated in the manuals used by Thoreau)

#### HAIR FESCUE

Eaton says this is occasional. No specimen in Thoreau herbarium. Eaton collected this on June 25, 1933 in thin, sterile soil on a granitic ledge on the edge of woods at Egg Rock, on July 2, 1960 in a niche in a dioritic ledge at Martha's Point, and on September 9, 1968 in dry, sterile soil of open woods at the Concord Country Club (all BEDF specimens). William Brace collected this on June 7, 1996 in a dry meadow he called "Keyes meadow" located north of his property at 49 Liberty Street (NEBC specimen). Voucher specimen in NEBC collected by Eaton on June 25, 1932 in dry, open woods. Link to image.

FESTUCA RUBRA subsp. RUBRA (GM8: same; TH: not treated in the manuals used by Thoreau, but likely to have been included in Festuca ovina by him)

RED FESCUE

Eaton says this is frequent. Specimen in Thoreau herbarium collected on June 21, 1859 labeled by him as Festuca ovina or Festuca tenella [Vulpia octoflora] without locality, but noted in his *Journal* on this date in Concord as covering dry and dryish fields and hills. There are about 10 references in Thoreau's *Journal* to Festuca ovina some or all of which might be to this species rather than to Festuca ovina which has yet to be recorded from Concord. Voucher specimen in NEBC is Thoreau's collection of it. Link to image.

Glyceria acutiflora (GM8: same; TH: same)

Eaton says this is rare. Specimen in Thoreau herbarium collected "about" July 11, 1860 at Laurel Glen Pool. Thoreau's *Journal* for that date refers to it there. A footnote for that date and the *Journal* entry for July 16, 1860 indicate that it was very abundant in the wettest part of the Holt portion of the meadow at Great Meadows. Voucher specimen in NEBC is Thoreau's collection of it. <u>Link to image</u>.

Glyceria borealis (GM8: same; TH: not scientifically described until 1897) NORTHERN MANNA-GRASS

Eaton says this is uncommon. No specimen in Thoreau herbarium. His approximately eight *Journal* references to Glyceria fluitans (known in New England only from Nantucket, MA) are likely to be either this or Glyceria septentrionalis. On July 2, 2016 Cole Winstanley reported finding this at the access driveway to Hanscom Air Base off Virginia Road near the Concord line. Voucher specimen in NEBC collected by Edward Hoar on August 20, 1858 in shallow water along the Concord River. Link to image.

Glyceria canadensis var. canadensis (GM8: same; TH: same)

#### RATTLESNAKE GRASS

Eaton says this is common. Specimen in Thoreau herbarium collected on July 7, 1860 at Hemlock brook in Grackle Swamp. He identified it incorrectly as Glyceria elongata [Glyceria melicaria] on the specimen label and in his *Journal* entry for that date. There are about 11 references to this in Thoreau's *Journal*. On January 2, 1856 he refers to it at Heywood

Meadow, on November 18, 1857 along the Bedford road at Moore's Swamp, on January 24, 1858 along a long pond-hole in the Nut Meadow Brook area, and on September 5, 1858 at a pond-hole at Walden Pond. Edward Hoar collected this on August 29, 1858 in wet land near Mr. Prichard's [his neighbor Moses Prichard on Main Street] (NEBC specimen). Eaton collected this on July 17, 1933 in a meadow at the old Worthley Farm [1227 Lowell Road] (BEDF specimen). N.C. Fassett collected this on August 16, 1946 in swales along the Concord River (specimen in herbarium of the University of New Hampshire). William Brace collected this on July 9, 1996 at a marshy spot near a brook at 49 Liberty Street (NEBC specimen). Voucher specimen in NEBC is Thoreau's collection of it. Link to image.

Glyceria grandis var. grandis (GM8: same; TH: Glyceria aquatica)
REED MEADOW GRASS

Eaton says this is frequent. Specimen in Thoreau herbarium collected on July 7, 1859 at Holbrook's Meadow. Thoreau's only *Journal* reference is on July 3, 1860 at Holbrook's meadow. William Brace collected this on June 23, 1997 at the dry edge of Soutter meadow [apparently property at the corner of Sudbury Road and Route 2] (NEBC specimen). Voucher specimen in NEBC is Thoreau's collection of it. <u>Link to image</u>.

Glyceria obtusa (GM8: same; TH: same)

Eaton says this is common. Specimen in Thoreau's herbarium (questioned by him) collected on August 23, 1859 at Laurel Glen bottom. His only three *Journal* refers to it are on September 2, 1858 as very common in the meadow west of Brooks Clark's, on September 14, 1858 at the same site, and on August 13, 1860 without locale specified. Eaton collected this on October 9, 1921 in boggy woods on the west edge of Meriam's Corner swamp [Gowing's Swamp] (BEDF specimen). Voucher specimen in NEBC is Thoreau's collection of it. <u>Link to image</u>.

Glyceria septentrionalis var. septentrionalis (GM8: same; TH: not scientifically described until 1906)

#### FLOATING MANNA-GRASS

Eaton says this is uncommon. Specimen in Thoreau's herbarium is labeled as "Glyceria fluitans" collected on June 16, 1859 at River shore and in Great Meadows. Thoreau's *Journal* refers to it on this date. His approximately seven other *Journal* references to Glyceria fluitans (known in New England only from Nantucket, MA) are likely to be either this or Glyceria borealis. Eaton collected a specimen of this on June 29, 1930 in a meadow in the valley of the Sudbury River that he identified as Glyceria borealis but has been corrected to Glyceria septentrionalis (BEDF specimen). William Brace collected this on June 21, 2001 in a marshy area of the Old Calf Pasture (NEBC specimen). Voucher specimen in NEBC is Thoreau's collection of it. Link to image.

Glyceria striata (GM8: same, including var. stricta; TH: Glyceria nervata) FOWL MEADOW GRASS

Eaton says this is common. Specimen in Thoreau's herbarium collected on June 1, 1859 at Ralph W. Emerson's meadow and boats' place. There is no reference to this common grass in Thoreau's *Journal* under its scientific name at the time, Glyceria nervata, which is puzzling. Some of Thoreau's uses in his *Journal* of the general common name "meadow-grass" no doubt refer to this species. Eaton collected this on July 2, 1956 in swampy woods (NEBC specimen). William Brace collected this on June 20, 1998 in a wet meadow or field at Spencer Brook on land of the Concord Land Conservation Trust and on July 9, 1996 in marshy ground at "Keyes brook" [at or north of 49 Liberty Street] (both NEBC specimens). Voucher specimen in NEBC is Thoreau's collection of it. Link to image.

## HOLCUS LANATUS (GM8: same; TH: same)

Eaton says this is not common. Specimen in Thoreau herbarium collected on July 1, 1859 near edge of J.[ames] P. Brown's little meadow west of his moraine. His three *Journal* references note it on this collection date at this place (mentioning that it also grows near southwest end of Hubbard's Grove), on June 27, 1860 referring to it at Hosmer's field on the Assabet River north of Poke-logan, and on July 28, 1860 as abundant on the west and northwest side of Painted-Cup Meadow at Annursnack Hill. Eaton collected this on June 25, 1932 in a birch thicket of an old pasture near Martha's Point, and on June 30, 1966 in a wet spring hole below G.[eorge] Root's barn east of Sandy Pond Road (BEDF specimens). William Brace collected this on June 27, 1998 in a disturbed, dry meadow or field at the corner of Lowell Road and Liberty Street (NEBC specimen). Voucher specimen in NEBC is Thoreau's collection of it. Link to image.

Leersia oryzoides (GM8: same; TH: same)

RICE CUTGRASS

Eaton says this is common. Specimen in Thoreau herbarium collected on September 1, 1858 at the shore of the pool by oaks behind [Minot] Pratt's, abundant and in prime, and also on the shore of Merrick's pasture [which included today's Old Calf Pasture]. Thoreau's approximately 17 Journal references note it on this collection date, on August 28, 1854 and August 1, 1856 at Great Meadows, on August 24, 1859 at the roadside of Corner road by the brook, on August 26, 1859 in prime at Potter's holes, and on August 26, 1860 in the old pad ditch by the path beyond Hubbard's Grove. Edward Hoar on September 7 (no year) at the riverbank at the foot of Miss Prichard's in one foot of water (NEBC specimen). Eaton collected this on September 15, 1928 at the pond shore of Goose Pond on a wood lot (presumably his own), and on September 17, 1961 at the edge of an artificial water-hole at Nine-acre Corner (both BEDF specimens). William Brace collected this at a meadow stream, apparently to the west of Keyes Pond (just to the north of 49 Liberty Street), on August 11, 1995. Voucher specimen in NEBC is Thoreau's collection of it. Link to image.

LOLIUM ARUNDINACEUM (GM8: Festuca elatior (in part); TH: Festuca elatior (in part))
REED FESCUE

Eaton and Thoreau would not have distinguished this from Lolium pratense which is much more common. No specimen in Thoreau herbarium. Voucher collected by William Brace to the west of Keyes Pond (just north of 49 Liberty Street) on June 9, 1995. Voucher specimen in NEBC collected by William Brace on July 4, 1996 in a wet meadow or field at the corner of Lowell Road and Liberty Street. Link to image. See also Appendix F for image of 1995 specimen of Brace.

LOLIUM PERENNE subsp. PERENNE (GM8: same; TH: same)

Eaton lists this in an appendix as probably in Concord. No specimen in Thoreau herbarium or reference to it in his *Journal*. William Brace collected this on June 4, 1996 on a wet field at his property at 49 Liberty Street (NEBC specimen). Voucher specimen in NEBC collected by this author and Dorian Kottler on August 24, 1985 in a recent clearing near the Sudbury River on a slope beneath a residence between Fairhaven Hill and the Hubbard Bridge. <u>Link to image</u>.

LOLIUM PRATENSE (GM8: Festuca elatior (in part); TH: Festuca elatior (in part)) MEADOW FESCUE

Eaton says this is common, often weedy. Specimen in Thoreau herbarium collected on June 18, 1859 at Clam Shell meadow has been identified as this by this author in 2017. The solitary reference to this in his *Journal* under its common name on June 21, 1860 lacks a

locale. William Brace collected this on June 23, 1997 in a wet meadow, "Keyes mdw" [an area north of his property at 49 Liberty Street] (NEBC specimen). Voucher specimen in NEBC is Thoreau's collection of it. Image of specimen.

MICROSTEGIUM VIMINEUM (GM8: not treated; TH: not treated in the manuals used by Thoreau)

This tropical Asian species appear to have been first collected in New England in New Haven County, CT in 1984. So, there is no mention of it by Pratt, Hosmer, Thoreau or Eaton. Lisa Standley collected this on September 29, 2018 in the center of a cart path on property of the Minute Man National Historical Park .34 miles ESE of the junction of Lexington Road and Old Bedford Road. Voucher specimen in NEBC collected by Lisa Standley. Link to image.

Muhlenbergia frondosa (GM8: same; TH: not distinguished in the manuals used by Thoreau and would have been included in Muhlenbergia mexicana)

Eaton says this is becoming common. No specimen in Thoreau herbarium. Thoreau's *Journal* reference on September 21, 1860 to Muhlenbergia mexicana might actually be Muhlenbergia frondosa since the manuals he used did not distinguish between the two species. Eaton collected this on September 16, 1961 in low ground along a wood road in Brewster's Woods near the Concord River (NEBC specimen), on September 17, 1961 in rich waste ground at the edge of a cultivated field at the edge of the Assabet River on McGrath's farm (GH specimen), on September 20, 1961 in low ground along a wood road at the north end of Bateman's Pond (NEBC specimen), on October 4, 1959 on the wooded shoulder of Garfield Road where abundant (BEDF specimen), and on August 23, 1957 in rich, low woods along a wood road west of Punkatasset Hill (BEDF specimen). William Brace collected this on September 11, 1996 at Great Meadows National Wildlife Refuge, and on September 6, 1998 in a wet meadow or field on his property at 49 Liberty Street (both NEBC specimens). Voucher specimen in NEBC collected by Eaton on September 9, 1932 on a dry knoll near old saw mill on Spencer Brook. Link to image.

Muhlenbergia glomerata (GM8: same, including var. cinnoides; TH: same) MARSH MUHLY

Eaton says this is rare. No specimen in Thoreau herbarium except from Beaver Pond in Lincoln, MA. Thoreau's two published *Journal* references to this are on August 27, 1860 at Harrington's Pool in Ministerial Swamp, and on August 30, 1860 near or southeast of the Spirodela polyrhiza in one of the ditches where peat was dug on Minot's land that he was surveying that day. An unpublished *Journal* passage on the date of his collection of this in Lincoln (September 17, 1858) has him wondering whether he had found it in Ministerial Swamp on November 25, 1858 near the edge in the bog. Specimen in NEBC collected by Edward Hoar (incorrectly attributed by Eaton to Thoreau) on September 1 [no year] in "Swamp below [Sam] Hoar's pond [Fairyland Pond in the Town Forest]." Link to image.

Muhlenbergia mexicana var. mexicana (GM8: same; TH: same (in part))

Eaton says this is apparently rare. Specimen in Thoreau herbarium collected on September 9 (no year) at Lee's Cliff. The year is 1858 since he refers to it with a question mark on that date in that year in an unpublished passage of his *Journal* while at Lee's Cliff (as he mentions being at the slippery elm which was only known in Concord from Lee's Cliff). Thoreau's herbarium label has a question mark after his identification as Muhlenbergia mexicana. His two published *Journal* references are on September 4, 1860 when he mentions Muhlenbergia mexicana without any question while being at Conantum (where Lee's Cliff is located) on that day, and on September 21, 1860 where he notes finding it by the wall between E. Hosmer and Simon Brown. However, this latter reference might actually be to the more common Muhlenbergia frondosa which was not distinguished from Muhlenbergia mexicana

in the manuals used by Thoreau. Voucher specimen in NEBC is Thoreau's collection of it. Link to image.

Muhlenbergia schreberi (GM8: same; TH: Muhlenbergia diffusa) NIMBLE WILL

Eaton says this is occasional in natural habitats, but otherwise a troublesome weed. No specimen in Thoreau herbarium or reference to it in his *Journal*. Specimens collected by Eaton in 1958 and 1968 are garden weeds. Voucher specimen in CONN (and in VT) collected by Eaton on September 29, 1971 on a sidewalk. Link to image.

Muhlenbergia sobolifera (GM8: same; TH: same)

Eaton says this is rare. Specimen in Thoreau herbarium collected on September 18 (no year) at the end of path below Lee's Cliff. The year is likely to be 1856 since that is the only late 1850's year (when he became most familiar with grasses) that he was definitely at Conantum (location of Lee's Cliff) on September 18. His only published *Journal* reference is on September 4, 1860 when he visited Conantum, where he says "What I have called Muhlenbergia sobolifera is in prime (say a week [in flower])." An unpublished *Journal* reference is on September 9, 1858 where it refers to it at or in the immediate vicinity of Lee's Cliff. Edward Hoar collected this on September 6 (no year) also in woods near Lee's Cliff (NEBC specimen). Eaton collected this on August 23, 1959 in niche in dioritic outcropping on the west side of Garfield Road (BEDF specimen), and on September 16, 1961 in rocky, deciduous woods at Martha's Point (NEBC, VT, and BEDF specimens). Voucher specimen in NEBC is Thoreau's collection of it. Link to image.

Muhlenbergia sylvatica (GM8: same; TH: same)

Eaton says this is rare. No specimen in Thoreau herbarium or reference to this in his *Journal*. Eaton collected this on September 17, 1961 on a shaded alluvial riverbank of Assabet River 50 meters west of the mouth of Spencer Brook (NEBC specimen). Voucher specimen in NEBC collected by Edward Hoar on September 24 (no year) in swamp at Egg Rock along the North Branch [Assabet River]. Link to image.

Muhlenbergia uniflora (GM8: same; TH: not scientifically described until 1927 and would have been identified as Sporobolus serotinus in Thoreau's time)

Eaton says this is common. Specimen in Thoreau herbarium collected in Shattuck's and Merrick's pasture [whih included today's Old Calf Pasture] on September 16 with no year given, but certainly 1860 since his comment on the label about his mistaking Sporobolus serotinus for Eragrostis capillaris mirrors this same comment in his *Journal* entry of September 10, 1860 and an unpublished passage on that date says "also saw it the 16<sup>th</sup>." Another Thoreau specimen was collected on September 7, 1858 labeled by him as "Eragrostis capillaries." Thoreau's *Journal* entry for September 7, 1858 notes "Near the little bridge at the foot of Turtle Bank, Eragrostis capillaris in small but dense patches, …". No other *Journal* entries with specific locales are clearly to this species. Edward Hoar on September 3 (no year) at Miss Pritchard's lower meadow (specimen missing). Eaton collected this on August 28, 1931 on a muddy shore of Goose Pond (BEDF specimen). John and Charlotte Reeder collected this on September 21, 1945 in a shady spot at the edge of Walden Pond (Yale University specimen). Voucher specimen in NEBC is Thoreau's September 7, 1858 collection of it. <u>Link</u> to image.

Panicum capillare (GM8: same, including var. occidentale; TH: same (in part)) WITCHGRASS

Eaton says this is common. Specimen in Thoreau herbarium collected on September 5 ("4" crossed out and "5" written over it, no year) is in a garden. The year is almost certainly 1858 since his *Journal* entry for September 4, 1858 states finding it in prime in a garden.

There are two other references in Thoreau's *Journal* to this or the less common Panicum philadelphicum. Specimen in NEBC collected by Edward Hoar on September 19, 1858 in a garden. Eaton collected this on September 18, 1962 on a gravel farm road of the Kenney Farm on Virginia Road (BEDF specimen). William Brace collected this in a wet meadow, apparently to the west of Keyes Pond (just north of Liberty Street), on September 16, 1995, and on September 15, 2002 at 49 Liberty Street (latter in NEBC). Voucher specimen in BEDF collected by Eaton on September 12, 1931 in rich alluvium on a Sudbury River bank. No image available. Link to Brace specimen.

Panicum dichotomiflorum subsp. dichotomiflorum (GM8: Panicum dichotomiflorum var. dichotomiflorum, including var. geniculatum; TH: Panicum proliferum)

FALL PANICUM

Eaton says this is common, sometimes an aggressive weed. No specimen in Thoreau herbarium or reference to this in his *Journal*. Eaton collected this on September 17, 1961 on a muddy bank of the Assabet River about 100 yards west of Spencer Brook (NEBC specimen). Laurence Richardson collected this on September 5, 1972 in a field path off Barrett's Mill Road (VT and BEDF specimens). William Brace collected this in a marsh at Great Meadows National Wildlife Refuge on September 18, 1995 and again at this locale on October 3, 1999 (latter specimen in NEBC). Voucher specimen in NEBC collected by Eaton on September 5, 1957 on a sandy flat near the south shore of Walden Pond. Link to image.

PANICUM MILIACEUM subsp. MILIACEUM (GM8: same; TH: same, but not treated in the manuals used by Thoreau)

#### **BROOM-CORN MILLET**

Eaton says this is a rarely persistent escape from cultivation. Specimen in Thoreau herbarium collected September 12 (no year) at the [Fair Haven] Cliff. The transcription of Thoreau's missing label for the plant identifies it (mistakenly) as "Panicum dichotomum var. pubescens." Thoreau's *Journal* in an unpublished passage refers specifically to this specimen at the Fair Haven cliffs on September 12, 1858: "Is that the Panicum dichotomum var. pubescens now done -- (but some green) from 1 to 3 (!) feet high on top of cliffs?" Voucher specimen in NEBC is Thoreau's collection of it. <u>Link to image</u>.

Panicum philadelphicum (GM8: same + Panicum tuckermanii; TH: same, but not treated in the manuals used by Thoreau, would likely have been treated as Panicum capillare by him) Eaton says this is rare. No specimen in Thoreau herbarium. Voucher specimen in NEBC collected by Eaton on September 17, 1961 on a shaded, alluvial bank of Assabet River 150 meters west of Spencer Brook. Link to image.

Panicum virgatum (GM8: same, including var. spissum; TH: same) SWITCHGRASS

Eaton says this is rare and not recently seen. Specimen in Thoreau herbarium collected on August 28 (no year) at Dangleberry Swamp edge. An unpublished passage of Thoreau's *Journal* added to the end of his entry for August 30, 1858 with a note that it was to be included for his entry of August 28, 1858 reads "Is that tall grass now in prime about edge of dangleberry Swamp -- Panicum virgatum???" His published *Journal* refers to this on September 7, 1858 at Shad-bush Meadow, on June 13, 1859 at Great Meadows, and on December 13, 1859 along the Sudbury River. Edward Hoar collected his on September 7 (no year), with Egg Rock and Hubbard's Grove given as places it was found (NEBC specimen). Eaton collected this on August 7, 1932 in the grassy river meadow, Wheeler's Meadow, east of Nashawtuc Hill [river meadow by Nashawtuc Bridge] (BEDF specimen). William Brace collected this in a dry meadow north of the Old Manse on National Park Service land on August 13, 1995 and on September 11, 1996 along a trail at the northern end of Great

Meadows (latter specimen in NEBC). Voucher specimen in CONN is Thoreau's collection of it. Link to image.

Paspalum setaceum var. muhlenbergii (GM8: Paspalum ciliatifolium var. muhlenbergii; TH: Paspalum setaceum)

Eaton says this is common. Specimen in Thoreau herbarium collected on August 24 (no year or locality). Thoreau's approximately eight references to this in his *Journal* note it generally in mown fields several times but without locality. William Brace collected this on July 10, 1998 in a dry meadow or field at the Old Manse (NEBC specimen). Voucher specimen in BEDF is Eaton's collection of it on September 9, 1932 in a dry field at Annursnack Hill, as this is the only specimen that records Concord on the original label. Image not available. <u>Link to Thoreau specimen</u>.

Phalaris arundinacea var. arundinacea (GM8: same; TH: same, Phalaris americana) REED CANARY-GRASS

Eaton says this is common. Thoreau called this the most conspicuous grass in the Concord vicinity except for the Phragmites (that occurred in Wayland). Specimen in Thoreau herbarium collected on June 16, 1859. His *Journal* entry for that date indicates that it densely covered the island by Hunt's Bridge. Of the other approximately 12 *Journal* references to this the only other one with a specific Concord locality is on July 8, 1859 at Hosmer's island and island below French's Rock in the Concord River [the latter island likely the high ground at the current Minuteman statue during high water]. Eaton collected this on July 27, 1956 in a wet meadow at Mill Brook near Heywood Street (BEDF specimen), and on September 8, 1967 in moist, gravelly soil along a wooded roadside adjacent to Harrington's Bog (NEBC specimen). William Brace collected this on June 24, 1997 in a wet meadow at Lee's Bridge on the Sudbury River (NEBC specimen). Leslie Mehrhoff collected this on June 9, 2000 in an opening in a wooded swamp west of an industrial park near Hanscom Field (CONN specimen). Doug Goldman collected this on July 4, 2009 in a damp or wet meadow .2 miles east-northeast of the intersection of Lexington Road and Old Bedford Road (GH specimen). Voucher specimen in NEBC is Thoreau's collection of it. Link to image.

PHALARIS CANARIENSIS (GM8: same; TH: same)

**CANARY-GRASS** 

Hosmer simply notes this at a dump. Eaton says this is rare. No specimen in Thoreau herbarium or reference to this in his *Journal*. Voucher specimen in NEBC collected by Hosmer with no date or locale within Concord given. <u>Link to image</u>.

PHLEUM PRATENSE subsp. PRATENSE (GM8: same; TH: same) TIMOTHY

Eaton says this is common. Specimen in Thoreau herbarium collected on September 6 (no year or locality). There are about 18 references to this in his *Journal* referring to it on May 22, 1855 at Channing's bank [Sudbury River behind Ellery Channing's residence on Main Street], and July 11, 1860 in A. Wheeler's meadow. William Brace collected this on June 11, 1999 in a wet meadow or field at 49 Liberty Street (NEBC specimen). Voucher specimen in GH is Doug Goldman's collection of it on July 4, 2009 about 2 miles ENE of the intersection of Lexington Road and Old Bedford Road. Link to image.

PHRAGMITES AUSTRALIS subsp. AUSTRALIS (GM8: Phragmites communis var. berlandieri; TH: Phragmites communis, Arundo phragmites)

COMMON REED

Pratt's copy of Gray's *Manual of Botany* indicates that he introduced this from "New York." Eaton says it occurs at a single colony at Great Meadows discovered in 1938. No specimen in Thoreau herbarium from Concord. None of the approximately seven references to it in his

Journal are other than in the Sudbury-Wayland meadows on the Sudbury River. According to Cherrie Corey it was no longer (2013) at Great Meadows, but is in a few places within the town, such as Elm Brook and in Sudbury River at Route 2. Voucher specimens in NEBC collected by Eaton on October 28, 1968 in the wet gravel floor of a recent excavation at the southern margin of Great Meadows near the parking space at the end of the middle dyke. Links to images of the 2-sheet collection are here and here.

PHYLLOSTACHYS AUREOSULCATA (GM8: not treated; TH: not scientifically described until 1945)

#### YELLOW-GROOVE BAMBOO

Cole Winstanley collected and photographed this in September 2015 from an extensive colony in brushy woods just west of the Assabet River and just north of Route 2. It had been spotted from Route 2 by others at least ten years previously when driving by it. Voucher is Winstanley's specimen in NEBC collected September 13, 2016. <u>Link to image</u>. See also photograph in Appendix G.

Piptatheropsis pungens (GM8: Oryzopsis pungens; TH: not distinguished from Piptatheropsis canadensis (Oryzopsis canadensis) in the manuals used by Thoreau)

Eaton says this is not uncommon. Specimen in Thoreau herbarium collected on May 1, 1859 at Major Heywood path. Thoreau's *Journal* entry for this date notes the plant at this location. His only other *Journal* references also cites it at this location on May 6, 1860.

Voucher specimen in NEBC is Thoreau's collection of it. Link to image.

POA ANNUA (GM8: same; TH: same)

#### ANNUAL BLUEGRASS

Eaton says this is very common. Specimens in Thoreau herbarium collected on May 5, 1858 at Minot Pratt's, and on July 13, 1859 also at Minot Pratt's. The only *Journal* reference is on May 5, 1859 where he sees it in Minot Pratt's garden. Voucher specimen in NEBC collected by T. Otis Fuller on October 8, 1882 at the shore of Walden Pond near Thoreau's cabin. Link to image.

POA BULBOSA subsp. BULBOSA (GM8: same; TH: not treated in the manuals used by Thoreau)

#### **BULBOUS BLUEGRASS**

Eaton does not list this. No specimen in Thoreau herbarium. It appears to be spreading in Massachusetts and other parts of New England. Found by Mary M. Walker at the edge of her property (untended). Voucher specimen in NEBC collected by Mary M. Walker on May 22, 1992 at 14 Chestnut Street in dry, gravelly, sandy soil behind house. Link to image.

POA COMPRESSA (GM8: same; TH: same)

#### CANADA BLUEGRASS

Eaton says this is common. Specimen in Thoreau herbarium collected on June 14, 1859 at the railroad causeway. Two other specimens on the same sheet were collected at Britton's Shanty and Great Road on June 2 and 4, 1859 which are in neighboring Lincoln, MA (only a small part of Great Road was in Concord). Of the approximately four references to this in Thoreau's *Journal* the only one with a specific Concord locale is on June 23, 1860 where he notes it on the railroad at Walden Pond, likely the same locale as his June 14, 1859 collection. Jarvis notes this on July 18, 1835 near Hunt's bridge. Eaton collected this on August 1, 1929 in a sandy field in West Concord (BEDF specimen). William Brace collected this on May 24, 1996 in a wet meadow or field on the west side of Keyes Road (NEBC specimen). Voucher specimen in NEBC is Thoreau's June 14, 1859 collection of it. Link to image.

# POA NEMORALIS var. NEMORALIS (GM8: same; TH: same) WOOD BI UEGRASS

Eaton's lists this only in appendix as probable in Concord. No specimen in Thoreau herbarium or reference to this in his *Journal*. William Brace collected this on June 25, 1996 in a wet field on his property at 49 Liberty Street, and on July 2, 1997 in wet woods at the musterfield at the Minuteman National Historical Park (both NEBC specimens). Voucher specimen in NEBC collected by Michael Ringel and this author in June 1994 at Punkatasset Hill, east side near first fork of access trail from Monument Street. Link to image.

Poa palustris (GM8: same; TH: Poa serotina)

#### **FOWL MEADOW-GRASS**

Eaton says this is frequent. Specimen in Thoreau herbarium collected on July 7, 1859 at "Great Meadows edges & of river" [Concord River], and *Journal* reference (by its common name) on this date. There are about seven other references to this in his *Journal*, including on July 8, 1859 on the islands of the Concord River such as Hosmer's and the one below French's Rock [the latter island likely the high ground at the current Minuteman statue during high water], and on July 15, 1860 along the low riverbanks of the Assabet River. Voucher specimen in NEBC is Thoreau's collection of it. Link to image.

POA PRATENSIS subsp. PRATENSIS (GM8: same; TH: same)

#### KENTUCKY BLUEGRASS

Eaton says this is common. No specimen in Thoreau herbarium. There are about 29 references to this in his *Journal*. He notes it on June 15, 1852 in Pleasant Meadow [in Lincoln, MA], on June 16, 1859 at Great Meadows, on May 30, 1860 in the field south of Edmund Hosmer's ledge by the road, and on June 1, 1860 at Lee's Cliff. William Brace collected this on July 12, 1996 in a wet meadow at Rasmussen brook [Dakin's Brook] (NEBC specimen). Voucher specimen at Yale University collected by John and Charlotte Reeder on June 9, 1946 in hard-packed soil of old roadway in shade along the edge of Walden Pond. Link to image.

POA PRATENSIS subsp. ANGUSTIFOLIA (GM8: Poa angustifolia; TH: not treated in the manuals used by Thoreau, would have been treated by him as Poa pratensis - typical) Eaton says this is apparently rare. No specimen in Thoreau herbarium. Voucher specimen in NEBC collected by Eaton on June 15, 1958 in a dry, sterile clearing between the east and west branches of Second Division Brook. Link to image.

POA TRIVIALIS subsp. TRIVIALIS (GM8: same; TH: same)

#### **ROUGH BLUEGRASS**

Eaton says this is uncommon. Specimen in Thoreau herbarium collected on July 1, 1860 "at Well Meadow in shade prevailing there." No references to this in Thoreau's published *Journal* on this date, but an unpublished passage for his entry for July 1, 1860 reads "What is the prevailing grass of Well Meadow now? It is not the Trisetum palustre [Sphenopholis pensylvanica]? Call it Eatonia pennsylvanica [Sphenopholis pensylvanica]? or palustris -- No No." The published *Journal* of July 10, 1860 notes him finding the true "Eatonia pennsylvanica" at nearby Pleasant Meadow. An unpublished sentence adds "What then that grass of Well meadow June -- which I falsely so called?" Edward Hoar collected this on June 28 (no year) at Sam Hoar's Spring [Brister's Spring] (NEBC specimen). Doug Goldman collected this on July 4, 2009 on a gentle west-facing slope in a damp or wet meadow about .1 mile east of the intersection of Sudbury Road and Powder Mills Road at the Willow Guzzle reservation (GH specimen). Voucher specimen in NEBC is Thoreau's collection of it. Link to image.

Schizachyrium scoparium var. scoparium (GM8: Andropogon scoparius, including var. frequens: TH: Andropogon scoparius)

LITTLE BLUESTEM

Eaton says this is abundant. Specimen in Thoreau herbarium collected on August 25, 1858 at Solidago rigida bank. His *Journal* entry for this date refers to it there [Solidago rigida Bank, on dry soil all over a hillside behind Caesar's] as Andropogon furcatus, a related species. There are about 12 other *Journal* references, including on October 14, 1858 common on the sandy shore under Ball's Hill and hill behind Reuben Brown's place, on October 20, 1858 and March 10, 1859 on Money-Diggers' Hill-side, on November 10, 1858 at the entrance to Pleasant Meadow [in Lincoln, MA], on March 25, 1859 at Clamshell Hill, and on October 16, 1859 at Witherell Glade. Eaton collected on this on September 9, 1932 in a dry field at Annursnack Hill, and on August 29, 1938 in dry sandy soil along railroad tracks east of the filter beds (both NEBC specimens, latter one also at BEDF). Voucher specimen in NEBC is Thoreau's collection of it. Link to image.

SECALE CEREALE (GM8: same; TH: same)

RYE

Eaton says this is an increasingly common adventive. No specimen in Thoreau herbarium. Of his approximately four *Journal* references to this the only one suggesting wild occurrence is on May 14, 1853 on a little rounded hill by Pantry Brook. Voucher specimen collected by Eaton on August 2, 1959 on exposed alluvium at the edge of river meadow near spillway of lower dyke at Great Meadows. <u>Link to image</u>.

SETARIA FABERI (GM8: same; TH: not scientifically described until 1910)
Eaton's does not list this. No specimen in Thoreau herbarium. Voucher specimen in NEBC collected by Mary M. Walker on August 31, 1979 at edge road to the former Concord landfill (dump) near Walden Pond. <u>Link to image</u>.

SETARIA PUMILA (GM8: Setaria glauca; TH: Setaria glauca) YELLOW FOXTAIL

Eaton calls this an abundant weed. No specimen in Thoreau herbarium. Neither of his two *Journal* references to this is to wild occurrence, but he mentions that it is in Mrs. [Edward] Hoar's garden where Edward Hoar collected his specimen that is now in NEBC. William Brace collected this on July 14, 1998 in a disturbed wet meadow at his property at 49 Liberty Street (NEBC specimen). Voucher specimen in BEDF collected by Eaton on September 17, 1961 at Nine Acre Corner roadside at the edge of a cultivated field. Image not available. Link to Brace specimen.

SETARIA VIRIDIS var. VIRIDIS (GM8: same; TH: same) GREEN FOXTAIL

Eaton says this is a common weed in cultivated ground. No specimen in Thoreau herbarium. His two *Journal* references are to garden occurrences, as is Edward Hoar's specimen in NEBC. Voucher specimen in NEBC collected by William Brace on July 14, 1998 in a disturbed wet meadow by a stone wall at 49 Liberty Street. <u>Link to image</u>.

Sorghastrum nutans (GM8: same; TH: Sorghum nutans, Andropogon nutans) INDIAN GRASS

Eaton lists this only in an appendix as probable in Concord. Specimen in Thoreau herbarium collected on September 1 (no year) on open land by hillside was collected on September 1, 1858 on the hillside above Clamshell Ditch as his *Journal* entry for September 6, 1858 and an unpublished passage of September 4, 1858 state. There are three other references to this in his *Journal*. On August 22, 1860 it he refers to it at apparently the same locality at Clamshell Hill. The *Flora of Middlesex County, Massachusetts* of Dame and Collins (1888) says this is occasional. William Brace collected it on October 3, 1998 in the eastern portion

of the Old Calf Pasture in a dry meadow (NEBC specimen). Cole Winstanley reported finding about 100 stems of this in a small area on an overgrown house lot never built upon west of Westford Road and east of Spencer Brook in Aug. 2015. Voucher specimen in NEBC is Thoreau's collection of it. Link to image.

SORGHUM HALEPENSE (GM8: Sorgum halapense; TH: not treated in the manuals used by Thoreau)

### JOHNSON GRASS

Eaton does not list this. No specimen in Thoreau herbarium. Not in the *Flora of Middlesex County, Massachusetts of Dame and Collins* (1888). Seymour's *The Flora of New England* (1982) calls this rare. Voucher specimen in NEBC collected in 1961 by Laurence E. Richardson. Link to image.

Spartina pectinata (GM8: same; TH: Spartina cynosuroides)
PRAIRIE CORDGRASS

Eaton says this is common in the river meadows. No specimen in Thoreau herbarium. The only *Journal* reference that might be to an occurrence in Concord is on July 14, 1860, but no specific locality is named. This would have been rare in Thoreau's time as the *Flora of Middlesex County, Massachusetts* of Dame and Collins (1888) notes its collection in Lowell and Edward Hoar's collection in Concord as the only occurrences not near salt water. Eaton collected this on July 29, 1920 in the wet, grassy Wheeler's Meadow east of Nashawtuc Hill, likely the site of Hoar's collection noted below (BEDF specimen). C.B. Hellquist and this author collected this in the eastern pond of the Great Meadows National Wildlife Refuge on July 24, 1980 (MASS specimen). William Brace collected this on shores at Great Meadows National Wildlife Refuge on August 25, 1995. Cole Winstanley found it also at Great Meadows, along the center dike, in August 2015. Voucher specimen in NEBC collected by Edward Hoar in July or August of 1887 on the north shore of the riverbank [Sudbury River] a little below Hurd's Bridge [bridge at Nashawtuc Road built after Thoreau's time]. Link to image.

Sphenopholis pensylvanica (GM8: Trisetum pensylvanicum; TH: Trisetum palustre) SWAMP OATS

Eaton says this is rare. Specimens in Thoreau herbarium collected on June 19, 1859 at Well Meadow head, and on June 29, 1859 at Heywood Meadow at the railroad spring in brush. *Journal* entry for June 19, 1859 notes finding this there, and the *Journal* entry for June 29, 1859 mentions the railroad spring without mentioning the grass [1906 edition of his *Journal* mistakenly transcribing "Howard's meadow" for Heywood's Meadow near Walden Pond]. His only other *Journal* reference to this grass is on June 14, 1860 near Second Division Brook. Eaton collected this on June 10, 1961 in cold, springy muck at the edge of the floating sphagnum bog [Heywood's Meadow] southeast of Walden Pond (NEBC specimen). Voucher specimen in NEBC is Thoreau's June 19, 1859 collection of it. *Link to image.* 

Sporobolus vaginiflorus var. vaginiflorus (GM8: same; TH: Vilfa vaginaeflora)

Eaton says this is frequent. No specimen in Thoreau herbarium. Only two references to this in Thoreau's *Journal*, both without specific locality. On September 6, 1858 Thoreau refers to it as very common by roadsides in dry ground. Voucher specimen in NEBC collected by Edward Hoar on September 3, 1858 in a reclaimed meadow. <u>Link to image</u>.

Torreyochloa pallida var. pallida (GM8: Glyceria pallida; TH: Glyceria pallida, Poa dentata) Eaton says this is not common. Specimens in Thoreau herbarium collected on June 21, 1859 at the Derby pasture pool well out in water near the Assabet River above his bathing-place,

and on July 7, 1859 along a path in Great Meadows. There are about five references to this in Thoreau's *Journal*. He refers to it on June 21, 1859 (date of his first specimen), on June 25, 1860 in a ditch at the little brook on the Corner road close to the road on the south side, on July 3, 1860 in the ditch on the south side of Bedford road by Moore's Swamp, and on July 16, 1860 at the Holt portion of the Great Meadows. Eaton collected this on June 25, 1932 in shallow water in a small pond hole behind Martha's Point (BEDF specimen). Voucher specimen in NEBC is Thoreau's collection of it on June 21, 1859. Link to image.

Torreyochloa pallida var. fernaldii (GM8: Glyceria fernaldii; TH: not scientifically described until 1906, would have been treated as Glyceria pallida in Thoreau's time)

Eaton says this is rare. No specimen in Thoreau herbarium. Voucher specimen in NEBC collected by Eaton on August 14, 1937 in the hed of a dried out ditch draining a small

collected by Eaton on August 14, 1937 in the bed of a dried-out ditch draining a small grassy swamp near the 8<sup>th</sup> tee of the Concord Country Club, part of the drainage system of the very cold Jenny Dugan Brook. <u>Link to image</u>.

TRIDENS FLAVUS var. FLAVUS (GM8: Triodia flava; TH: Tricuspis seslerioides)
PURPLETOP

Eaton says this is adventive at a single station, now mostly or completely eradicated. No specimen in Thoreau herbarium or reference to this in his *Journal*. William Brace collected this in a wooded field at 49 Liberty Street on August 22, 1995 and at the same location on Sept. 24, 1996 (latter specimen in NEBC). Voucher specimen in NEBC collected by Eaton on September 20, 1934 in a sandy field at Clamshell Bluff. Link to image.

Trisetum spicatum (GM8: same, including var. molle; TH: Trisetum subspicatum, including var. molle)

Eaton says this is rare. No specimen in Thoreau herbarium or reference to this in his *Journal*. Voucher specimen in NEBC collected by C.W. Jenks and C.W. Swan on July 6, 1888 at Bateman's Pond. Link to image.

TRITICUM AESTIVUM (GM8: same; TH: Triticum vulgare) WHEAT

Eaton says scattered stations, seldom persisting. No specimen in Thoreau herbarium or *Journal* reference to wild occurrence. Voucher specimen in NEBC collected by Eaton on August 2, 1959 in firm exposed alluvium by the Concord River near the spillway of the lower dyke at Great Meadows. <u>Link to image.</u>

VULPIA MYUROS var. MYUROS (GM8: same; TH: not treated in the manuals used by Thoreau)

Eaton does not list this. No specimen in Thoreau herbarium or reference to this in his *Journal*. Voucher specimen in NEBC collected by William Brace in the dry musterfield in the Minuteman National Historical Park on June 29, 1998. <u>Link to image</u>.

Vulpia octoflora var. glauca (GM8: Vulpia octoflora var. tenella; TH: Festuca tenella) Eaton says this is uncommon. Specimen in Thoreau herbarium collected on July 1, 1860 in the "path near Sedge path southwest of yew" [on Fair Haven Hill]. There are two *Journal* references to this. On July 2, 1860 he notes the find on July 1, 1860 ("Yesterday I detected the smallest grass that I know, ... in the dry path S W of the yew only two to four inches high like a moss."). Voucher specimen in NEBC is Thoreau's collection of it. <u>Link to image.</u>

Zizania aquatica var. aquatica (GM8: same; TH: same) ANNUAL WILD RICE

Hosmer calls this common. Eaton says it was formerly scattered along riverbanks, locally abundant at Great Meadows by 1957. No specimen in Thoreau herbarium. There are about 28 references to this in Thoreau's journal. *Journal* references with localities in Concord are on October 25, 1852 along the Concord River, on July 22, 1854 along the Assabet River with a

drawing, on August 18, 1854 on the north side of the Concord River near the Holt at Great Meadows, and on August 28, 1854 abundant in the Assabet River in the rear of Joseph Hosmer's near the Derby Bridge. Jarvis notes this at brook near centre wheelhouse. Herbert E. Sargent collected this on July 19, 1913 at the North Bridge (University of New Hampshire specimen). Eaton collected this on July 16, 1957 at Great Meadows (BEDF specimen). Laurence Richardson collected this on July 31, 1961 at the Assabet River (BEDF specimen). C.B. Hellquist and this author collected this on July 24, 1980 in the eastern pond at Great Meadows National Wildlife Refuge (MASS specimen). Dr. Shiu Ying Hu (in this author's presence) collected this on August 2, 1980 in quiet water by the Old North Bridge where it was abundant (NEBC specimen). Voucher specimen in NEBC collected by Eaton on August 4, 1920 in stagnant shallows of the river margin on the right bank of the Sudbury River near Nashawtuc Bridge. Link to image.

**Pontederiaceae** (GM8: same; TH: same) Pontederia cordata (GM8: same; TH: same)

**PICKERELWEED** 

Pratt and Hosmer say this is common. Eaton calls it very common. Specimen in Thoreau herbarium without date or locale. There are more than 120 references to it in Thoreau's *Journal*. Walter Deane collected this on July 5, 1893 at the Concord River (NEBC, GH, MASS, CONN and VT specimens). Eaton collected this on September 20, 1961 in very shallow water in mucky sand at the edge of Bateman's Pond (NEBC specimen). C.B. Hellquist collected this on August 4, 1970 in a swamp on the west side of Route 2 near the Concord River [more likely Sudbury River since Route 2 does not come near the Concord River] (MASS specimen). Voucher specimen in NEBC collected by Edward Hoar on August 10, 1857 along a riverbank. Link to image.

**Potamogetonaceae** (GM8: Zosteraceae; TH: Naiadaceae (in part)) -- Pratt did not list Potamogeton and Hosmer listed only five species without comment.

Potamogeton amplifolius (GM8: same; TH: Potamogeton lucens var. fluitans, where Gray's Manual of Botany 2<sup>nd</sup> ed. lists the name Potamogeton amplifolius as equivalent) Hosmer lists this without comment. Eaton says this was probably common formerly. A specimen in Thoreau herbarium without date and with "Great Potamogeton off Dodd's & boat" in Thoreau's handwriting. [Jonathan Moore Dodd (1801-1885) lived on Main Street with the Sudbury River at the back of his property.] An unpublished passage in Thoreau's *Journal* on July 30, 1856 refers to this: "Beside the 3 (or 3) Potamogetons of July 27 [1856] (q.v.) there is of course what I will call the Great P[otamogeton] off Dodds -- at rock above boat -- off Merricks &c &c -- [followed by a long description]." He describes seeing this first in 1856. The name "Potamogeton amplifolius?" written on the specimen sheet is not in Thoreau's hand. Another specimen in his herbarium is without date or locality. The two other possible wide-leaved species (Potamogeton natans and Potamogeton pulcher) are easily ruled out. No other definite references to this in Thoreau's Journal. Edward Hoar collected this on June 10 (no year) in the "Concord River just above shell heaps" [almost certainly in the Sudbury River above Clamshell Hill not far from Dodd's] (NEBC specimen). E.C. Ogden and I.L. Wiggins collected this on October 3, 1937 in stagnant water along a river bank of the Sudbury River (GH specimen). Voucher specimen in NEBC collected by Walter Deane on August 4, 1886 in the Sudbury River. Link to image.

Potamogeton berchtoldii (GM8: Potamogeton berchtoldi, including vars. acuminatus, lacunatus, & polyphyllus; TH: Potamogeton pusillus)

Hosmer lists this without comment. Eaton says this was formerly common. No specimen in Thoreau herbarium or references to this in his *Journal*. Note: Most specimens of this in herbaria are filed as Potamogeton pusillus var. tenuissimus. J.R. Churchill collected this on June 29, 1895 in the Concord River (NEBC specimen). Eaton collected this on August 10, 1956 in a pool in excavated gravel near the end of the middle dyke at Great Meadows, and on September 20, 1961 in exposed peaty gravel and shallow pools on the floor of the outdoor skating rink at Middlesex School near the northern end of Bateman's Pond (both NEBC specimens). Eaton and C. Schweinfurth collected this on July 16, 1966 in a shallow pool in the sphagnum bog southeast of Walden Pond [Heywood's Meadow] (BEDF specimen). Laurence E. Richardson collected this on July 10, 1967 in the Sudbury River (BEDF specimen). C.B. Hellquist collected this on October 5, 1971 in the Assabet River at the juncture with the Concord River and the Sudbury River [Egg Rock] (MASS specimen). Voucher specimen in NEBC collected by Eaton on June 25, 1937 in the Sudbury River at Egg Rock. Link to image.

Potamogeton bicupulatus (GM8: Potamogeton capillaceus + Potamogeton diversifolius; TH: Potamogeton hybridus (in part))

Eaton says this is probably common. No specimen in Thoreau herbarium -- the specimen in his herbarium that he labeled Potamogeton hybridus actually being Potamogeton spirillus. His approximately eight *Journal* references to Potamogeton hybridus could be either Potamogeton bicupulatus or Potamogeton spirillus. Eaton collected this on September 20, 1969 in Macone Pond (BEDF specimen). Voucher specimen in NEBC collected by Edward Hoar on August 22 (no year) on the west shore of Bateman's Pond in a few inches of water and sandy bottom. Link to image.

POTAMOGETON CRISPUS (GM8: same; TH: same)

## **CURLY PONDWEED**

Eaton says this is locally abundant in the Sudbury River. No specimen in Thoreau herbarium or references to this in his *Journal*. Harold St. John collected this on May 11, 1913 in the Sudbury River (Yale University specimen). Frank C. Seymour collected this on June 19, 1953 in the Sudbury River (GH specimen). C.B. Hellquist collected this on October 5, 1971 in the Assabet River near the juncture with the Concord and Sudbury Rivers [Egg Rock] (MASS specimen). Voucher specimen in NEBC collected by Eaton on May 30, 1932 in Sudbury River where often choking the channel. Link to image.

Potamogeton epihydrus (GM8: same, including var. nuttallii; TH: not treated in the manuals used by Thoreau, probably would be included under the name Potamogeton heterophyllus by him)

## RIBBONLEAF PONDWEED

Eaton says this is common. Three specimens in Thoreau herbarium, two collected off Clamshell [Hill] with no date, and a third collected at Bartonia Ditch with no date. An unpublished passage of his *Journal* for July 31, 1856 refers to the one at Bartonia Ditch and implies that the ones from Clamshell Hill were likely collected in 1856 when he was focused on Potamogeton. An unpublished passage of August 3, 1856 describes the Clamshell Hill ones at great length. Most of his six *Journal* references to Potamogeton heterophyllus are likely to this. Thomas Morong collected this on August 4 (no year, but almost certainly 1886 when Edward Hoar, Walter Deane and Morong appear to have gone together collecting Potamogetons in Concord on this day) on the Concord River (could be Sudbury River since the label was made by Edward Hoar who did not distinguish the two) above French's on shell

heaps (NEBC specimen). E.C. Ogden and Ira Wiggins collected this on October 3, 1937 in stagnant water along a riverbank on the Sudbury River (GH specimen). Eaton collected this on August 14, 1957 in the cold running Jenny Dugan Brook near the edge of the Old Road to Nine-Acre-Corner, and on September 16, 1961 in shallow pool in mud at edge of sphagnum bog south of Walden Pond [Heywood's Meadow] (both BEDF specimens). C.B. Hellquist collected this on October 5, 1971 in the Assabet River at the juncture with the Sudbury River and Concord River [Egg Rock] (MASS specimen). Voucher specimen in NEBC collected by Edward Hoar on September 18, 1886 on the south shore of the Assabet River perhaps a quarter mile below the Reformatory. Link to image.

Potamogeton gemmiparus (GM8: same; TH: not scientifically described until 1867, probably would have been treated as Potamogeton pusillus in Thoreau's time)

Eaton says this is uncommon. No specimen in Thoreau herbarium. Note: Specimens are filed under Potamogeton pusillus var. gemmiparus. Voucher specimen in NEBC collected by T. Morong on August 4, 1886 on the west shore of the Concord River above shell heaps [Concord River likely being the Sudbury River as the specimen label was made by Edward Hoar who did not distinguish the two, with "shell heaps" likely being Clamshell Hill on the west bank of the Sudbury River; Walter Deane's collection of this on the same day, likely with Hoar and Morong, calls it the Sudbury River on his label]. Link to image.

Potamogeton gramineus (GM8: same, including var. myriophyllus; TH: Potamogeton heterophyllus)

Eaton says this was probably not uncommon formerly. No specimen in Thoreau herbarium. No certain references to this in his *Journal* since approximately six uses of the name Potamogeton heterophyllus could also be Potamogeton epihydrus. Edward Hoar collected this on unknown date in the Assabet River at upper end of Island south side above Gibraltar rock (NEBC specimen). Voucher specimen in NEBC collected by Edward Hoar on August 29, 1886 in several feet of water on the east shore of the Sudbury River above Nine Acre Corner Bridge [Hubbard's Bridge]. Link to image.

Potamogeton natans (GM8: same; TH: same)

## FLOATING PONDWEED

Hosmer lists this without comment. Eaton says this is common. Specimen in Thoreau herbarium collected on July 27, 1856 in the Assabet River. There is a long unpublished passage in his *Journal* on this date describing the specimen "... the prevailing one on assabet [river] ..." Some of his approximately seven *Journal* references might also be to the less common Potamogeton oakesianus. Jarvis notes this in Mill brook E.[ast] of dam. Eaton collected this on July 21, 1929 in the Sudbury River (BEDF specimen). Voucher specimen in NEBC collected by Edward Hoar on August 8 (no year) opposite Mrs. Cheney's. <u>Link to image</u>.

Potamogeton nodosus (GM8: same; TH: not treated in the manuals used by Thoreau) LONGLEAF PONDWEED

Eaton says this is uncommon, perhaps extirpated by pollution. No specimen in Thoreau herbarium or reference to this in his *Journal*. Edward Jarvis collected this on July 31, 1834 in the Mill Brook 20 rods east of the dam (MASS specimen). Voucher specimen in NEBC collected by Edward Hoar on July 12, 1887 in rapid water of Assabet River opposite Harrington Farm. Link to image.

Potamogeton oakesianus (GM8: same; TH: not scientifically described until 1867, would have been treated as Potamogeton natans in Thoreau's time)

#### **OAKES PONDWEED**

Hosmer lists this without comment. Eaton says this is uncommon. Specimens in Thoreau herbarium labeled as collected on July 31, 1856 at Andromeda Pond, and on August 6, 1856 unnamed by him at Walden Pond. Unpublished *Journal* passages on these dates refer to these with descriptions of them. A voucher cited by Eaton collected by himself in 1929 is in error. Voucher specimen in GH is Thoreau's collection of July 31, 1856. <u>Link to image.</u>

## Potamogeton robbinsii (GM8: same; TH: same)

#### FERN PONDWEED

Eaton says this was formerly not uncommon in the Sudbury River, but present status uncertain due to pollution. Specimen in Thoreau herbarium without date or locality. There are three references to this in his *Journal* -- on October 7, 1851 and June 27, 1853 in the Sudbury River, and on August 8, 1859 in shallow places in the Assabet River. Voucher specimen in NEBC collected by Edward Hoar on August 5 [no year, but almost certainly 1886 due to companion specimen of Hoar collected at the same location on August 5, 1886] in "Concord River" [Sudbury River due to location and Hoar's practice not to distinguish the two rivers] at end of Heath's farm in opening of lily pads in 3 or 4 feet of water in sight of Nine Acre Corner Bridge [Hubbard's Bridge]. Link to image.

# Potamogeton spirillus (GM8: same; TH: Potamogeton hybridus (in part)) NORTHERN SNAILSEED PONDWEED

Eaton says this is probably common. Specimen in Thoreau herbarium named by him as Potamogeton hybridus collected on August 1, 1856 with locality not given. An unpublished passage for this date in his Journal reads in part: "In the ditch behind Peters [Path] -- (& in pools in Great Meadow) the ap.[parent] true Potamogeton hybridus in prime -- The 5th kind of Floating P.[otamogeton] seen this year -- This then I must call the Smallest Floating P.[otamogeton] .... I will call this P.[otamogeton] Hybridus for present, though the spike is not globular, nor the petioles commonly less than the leaves." Another specimen of his is without date or locality. His approximately eight *Journal* references to Potamogeton hybridus could be either Potamogeton bicupulatus or Potamogeton spirillus. Charles Jenks collected this on July 24, 1890 in Walden Pond (BEDF specimen). Eaton collected this on July 21, 1929 in the Sudbury River (NEBC specimen), on August 9, 1961 in shallow water of the sluggish Concord River near the mouth of Mill Brook (University of New Hampshire specimen), and on September 20, 1961 in a shallow pool in peaty sand on the floor of an outdoor skating rink at Middlesex School at the north end of Bateman's Pond (GH specimen). Voucher specimen in NEBC collected by Edward Hoar on July 25 (no year) in the Concord River off Egg Rock. Link to image.

Potamogeton zosteriformis (GM8: same; TH: not scientifically described until 1932, would have been treated as Potamogeton compressus in Thoreau's time)

### FLATSTEM PONDWEED

Eaton says this is uncommon. No specimen in Thoreau herbarium. *Journal* reference on July 13, 1853 as Potamogeton compressus (with question mark) in Sudbury River. Voucher specimen in NEBC collected by C.B. Hellquist on September 22, 1971 in the Concord River west of Route 225. <u>Link to image.</u>

**Scheuchzeriaceae** (GM8: Juncaginaceae (in part); TH: Alismaceae (in part))

Scheuchzeria palustris (GM8: same, including var. americana; TH: same)

Pratt and Hosmer do not list this. Eaton says this is rare. No specimen in Thoreau herbarium. There are about eight references to this in his *Journal* -- actual observations of it on January 10, 1855 at European Cranberry Swamp [referring to Gowing's Swamp where Vaccinium oxycoccus occurs and which is near Beck Stow's Swamp], on June 5, 1857 at Gowing's Swamp ("That low reedy sedge about the edge of the central pool in the swamp is just out of bloom and shows the seeds ."), on June 13, 1858 at Ledum Swamp ("... now in flower and going to seed, ..."), on August 8, 1858 at Ledum Swamp, on May 30, 1859 at Gowing's Swamp ("... at height or past."), on May 26, 1860 at Gowing's Swamp ("out some days apparently, but only in the open pool in the midst of the swamp."), and on July 3, 1860 at Gowing's Swamp ("... full of green fruit fully grown."). This author collected this just going by (flowering) on May 24, 1981 in the same bog where Eaton found it (BEDF specimen). Voucher specimen in NEBC collected by Eaton an August 9, 1957 in the sphagnum bog at the west end of Harrington's Swamp [Ministerial Swamp], and on the same herbarium sheet on July 6, 1958 also in the bog at Harrington's Swamp in fruit (also in BEDF), with Eaton commenting that it was abundant at this only known station (to him at that time). Link to image.

Smilacaceae (GM8: Liliaceae (in part); TH: Smilaceae (in part))

Smilax herbacea (GM8: same; TH: same)

**CARRION-FLOWER** 

Pratt merely gives habitat. Hosmer says it is common. Eaton states it is frequent, but somewhat sporadic. Specimen in Thoreau herbarium without date or locality. There are about 24 references to it in Thoreau's *Journal*. Eaton collected this on June 17, 1934 in a meadow near the Concord River near Hunt's Bridge (BEDF specimen). Cole Winstanley (2014) reported more than six colonies of this in the Estabrook Woods and also at the Old Calf Pasture. Cherrie Corey (2014) reported seeing this in the wooded shoreline tangle along the Concord River between the Lowell Road and Monument Street bridges, and also in the floodplain forest edges along the westbound Dike Trail at Great Meadows. Voucher specimen in NEBC collected by Edward Hoar on June 28, 1858 with locale in Concord not given. Link to image.

Smilax rotundifolia (GM8: same; TH: same)

**COMMON GRENBRIER** 

Pratt says this is rather common. Hosmer notes it as common, as does Eaton -- adding especially along rivers. Two specimens in Thoreau herbarium without date or locality. There are about 48 references to it in Thoreau's *Journal*. Voucher specimen in NEBC collected by Horace Mann Jr. probably about 1862 with no locale in Concord given. <u>Link to image</u>.

**Typhaceae** (GM8: same + Sparganiaceae; TH: Typhaceae)

Sparganium americanum (GM8: same; TH: same, Sparganium simplex (in part))

Pratt and Hosmer do not list this. Eaton says this is rather common. Specimen from Concord in Thoreau herbarium from Stow's ditch corresponds to his only *Journal* reference to this on July 26, 1856, "Smaller bur-reed (Sparganium Americanum), judging from form of stigma (ovate and oblique), yet the leaves are almost entirely concave (!), Stow's ditch." Eaton collected this (as Sparganium androcladum but identified by this author as Sparganium

americanum) on September 10, 1932 in shallow water at Bateman's Pond (NEBC specimen), on July 18, 1957 in a wet, muddy ditch at Great Meadows (BEDF specimen), and on July 23, 1922 in a small muddy pond near the 3<sup>rd</sup> hole of the Concord Country Club (BEDF specimen). C.B. Hellquist collected this on October 5, 1971 in the Assabet River (specimen at University of New Hampshire). Cole Winstanley reported seeing this in Mink Pond in the Estabrook Woods in 2015. Voucher specimen in NEBC collected by Eaton on July 2, 1922 in the bed of a brook in an open meadow at the west end (outlet) of Ministerial Swamp. Link to image.

Sparganium emersum (GM8: Sparganium chlorocarpum; TH: Sparganium simplex (in part)) Pratt and Hosmer do not list this. Eaton says this is scarce. No specimens in Thoreau herbarium or references to this in his *Journal*. On August 18, 1854, while meeting with Rev. John Russell, a professor of botany, Thoreau was told by Russell that the smaller Sparganium was Thoreau's taller one of the river and should rather be called "minor" as it was only narrower. Thoreau used the made-up, never unpublished name, "Sparganium minor" just once after this on September 5, 1854, applying it to a Sparganium found in the Assabet River. Russell's reference to "smaller" suggests that the Sparganium is either Sparganium americanum or Sparganium emersum, both of which are not as robust as, or have fruiting heads as large as, Sparganium eurycarpum. Since Sparganium emersum tends to be a more erect plant and often has narrower leaves than Sparganium americanum, it would seem taller and could be called narrower, so that there is more likelihood that the plant in question is Sparganium emersum. Voucher specimen in NEBC (and BEDF) collected by Eaton on July 2, 1922 in the bed of a brook in an open meadow at the west end (outlet) of Ministerial Swamp. Link to image.

Sparganium eurycarpum (GM8: same; TH: same, Sparganium ramosum) Pratt simply describes the habitat. Hosmer says this is common. Eaton says it is now common along the banks of the polluted river. Three specimens are in Thoreau's herbarium, one without date or locality, two at Dodd's shore. [Jonathan Moore Dodd (1801-1885) lived on Main Street with the Sudbury River at the back of his property.] The dated specimen from Dodd's shore was collected on August 3, 1856. An unpublished Journal passage for this day reads: "Sparganium Ramosum (?) with linear stigmas to the style -- sometimes more than egual -- Monroes & Dodds shore -- I have pressed the smallest specimen -- This is the tall one of the river -- The length of the stigma is very variable in this & I think it doubtful if there is more than one species! how long? some is gone to seed. Like the Sium & perhaps smallest of the N.[uphar] Kalmianas it is common in mid stream but ap.[parently] abortive there -- Lower third of the leaves convex, rest concave --." There are about four references to this in Thoreau's published *Journal*. Jarvis notes this near Joseph Miles. This author collected it on July 17, 1980 at the edge of a cattail marsh at the Great Meadows National Wildlife Refuge near the parking lot observation tower where there were numerous plants (BEDF specimen). Voucher specimens in NEBC collected by Eaton on June 27, 1921 at river margin of the Sudbury River near Sanborn's bend in stagnant water rooting in mud. Link to image. TYPHA ANGUSTIFOLIA (GM8: same; TH: same)

Pratt and Hosmer do not list this. Eaton notes it as abundant at Great Meadows following extensive pollution in the mid-1930s and not recorded there prior to the flooding of these meadows. No specimen in Thoreau herbarium. The two *Journal* references with Concord occurrence are either uncertain as to identification (August 1, 1859 referring back to July 31, 1859) or without specific locality (May 9, 1852 as "chair flag"). His comments on the unusual height of the plant and separation of staminate and pistillate portions suggest that he might refer to the hybrid Typha x glauca [Typha latifolia X Typha angustifolia] which has

been found in Concord by Eaton. Voucher specimen in NEBC collected by Eaton on August 3, 1957 at the Great Meadows National Wildlife Refuge at the lower impoundment in shallow water overlying former impoundment where abundant. Link to image.

Typha latifolia (GM8: same; TH: same)

**COMMON CAT-TAIL** 

Pratt, Hosmer and Eaton say this is common. Specimen in Thoreau herbarium without date or locality. There are more than 50 references to this in Thoreau's *Journal* counting the generic name "flag." David Potter collected this on July 20, 1930 along the Cambridge turnpike (NEBC specimen). Eaton collected this on July 31, 1957 at the lower impoundment at Great Meadows (NEBC specimen). Laurence Richardson collected this on June 28, 1960 in the bog south of Walden Pond [Heywood's Meadow](BEDF specimen). Voucher specimen in NEBC collected by Eaton on July 2, 1922 at the margin of a pond hole near the west end of Ministerial Swamp. Link to image.

**Xanthorrhoeaceae** (GM8: Liliaceae (in part); TH: Liliaceae (in part))

HEMEROCALLIS FULVA (GM8: same; TH: same)

**ORANGE DAY-LILY** 

Pratt does not list this. Hosmer notes simply that it occurs at roadsides. Eaton says this is frequent, often locally abundant. Specimen in Thoreau's herbarium is labeled "Orange Lily" and was collected along the Groton Turnpike [labeled Union Turnpike on the 1906 Gleason map] appearing to be the locale mentioned in his *Journal*. There are about three references to this in Thoreau's *Journal*. On July 11, 1852 he notes this "strayed from cultivation, by the roadside beyond the stone bridge" and on June 25, 1853 again at the same location. Both of these are along the Groton/Union Turnpike at the Assabet River. Voucher specimen in NEBC collected by Eaton on July 6, 1958 on the roadside and adjacent thickets along Barrett's Mill Road where abundant. Link to image.

**Xyridaceae** (GM8: same; TH: same)

Xyris montana (GM8: same; TH: not scientifically described until 1892) SMALL YELLOW-EYED GRASS

Hosmer simply notes Xyris caroliniana at Bateman's Pond, but his herbarium specimen labeled as such as been identified as Xyris montana. Eaton lists this species only in an appendix as unlikely in Concord, and mistakenly uses Hosmer's specimen as the voucher for "Xyris caroliniana" which is a name misapplied to the common Xyris difformis var. difformis. No specimen in Thoreau herbarium. Voucher specimen in NEBC collected by Hosmer with no date or locale in Concord, but almost certainly at Bateman's Pond from his notes. Link to image.

Xyris torta (GM8: same; TH: Xyris bulbosa)

Pratt says this is common in fields. Hosmer simply notes this (as Xyris flexuosa) at Bateman's Pond and on riverbanks. Eaton says it is infrequent. No specimen in Thoreau herbarium. There are about five references in Thoreau's *Journal* to the genus and not to a particular species. Eaton collected this on September 15, 1928 at the shore of Goose Pond on his wood lot (BEDF specimen). Laurence Richardson collected this on August 26, 1960 at Butternut Circle and meadows (BEDF specimen). Voucher specimen in NEBC collected by Eaton on July 23, 1922 in a wet, peaty, grassy meadow at the Concord Country Club near the 8<sup>th</sup> hole. Link to image.

**DICOTS** (93 families; 379 genera; 836 species) [310 alien species; 540 species in this flora recognized or collected by Thoreau in Concord; 500 species in this flora listed by Pratt from Concord excluding his introductions; 547 species in this flora listed or collected by Hosmer from Concord]:

**Adoxaceae** (GM8: Caprifoliaceae (in part); TH: Caprifoliaceae (in part))

Sambucus canadensis (GM8: same; TH: same)

COMMON ELDER

Pratt, Hosmer, and Eaton say this is common. Specimen in Thoreau herbarium without locality or date. There are about 60 references to this in Thoreau's *Journal* all using a common name. Eaton collected this June 22, 1935 at the edge of a swamp in the Town Forest (NEBC specimen) and on June 22, 1930 in a low thicket in the vicinity of Goose Pond (BEDF specimen). David Potter collected this on July 20, 1930 along the Cambridge Turnpike (GH specimen). Voucher specimen in NEBC collected by Edward Hoar on August 29, 1858. Link to image.

Viburnum acerifolium (GM8: same; TH: same)

MAPLE-LEAVED VIBURNUM

Pratt says this is rare, found in the gorge on the east side of Bateman's Pond. Hosmer and Eaton say this is common. Specimen in Thoreau herbarium without date or locality, and another not from Concord. There are about 24 references to this in Thoreau's *Journal*. This author did not have difficulty finding this in the late 1970s and early 1980s, at Gowing's Swamp, for example. Mary Walker collected this on October 13, 1979 in dry woods in the Estabrook Woods (BEDF specimen). Voucher specimen in NEBC collected by Eaton on July 13, 1935 in low woods in the Town Forest. Link to image.

Viburnum cassinoides (GM8: same; TH: Viburnum nudum, Viburnum pyrifolium) WITHEROD

Pratt and Hosmer list this without comment. Eaton says it is common. Specimen in Thoreau herbarium from Concord is without date or locale. There are nearly 90 references to this in Thoreau's *Journal* indicating that it was common. Eaton collected this on September 15, 1928 and June 24, 1929 in the Ministerial Swamp (BEDF specimen). Lynn Maguire and Phil Nelson collected this on July 26, 1972 in an old field in the Estabrook Woods (BEDF specimen). Voucher specimen in NEBC collected by Eaton on June 7, 1935 in the Town Forest. Link to image.

Viburnum dentatum var. lucidum (GM8: Viburnum recognitum; TH: Viburnum dentatum (in part))

SMOOTH ARROW-WOOD

Pratt, Hosmer, and Eaton say this is common. Specimens in Thoreau herbarium without date or locality. There are more than 30 references to this in Thoreau's *Journal*. Eaton collected this on June 8, 1930 in a moist thicket on his woodlot near Goose Pond (BEDF specimen). Voucher specimen in NEBC collected by Eaton on June 22, 1935 in the Town Forest where abundant. Link to image.

Viburnum lentago (GM8: same; TH: same)

NANNYBERRY

Pratt simply notes that this occurs in swampy ground along the borders of the old Saw-Mill brook and other places. Pratt's copy of Gray's *Manual of Botany* also notes this at Hubbard Swamp and Conantum. Hosmer says this is common. Eaton says it is uncommon. Three specimens in Thoreau herbarium without locality or date, except one specimen from Ralph

Waldo Emerson's yard referred to without correct identification is associated with his *Journal* entry of June 10, 1857. There are more than 50 references to this in Thoreau's *Journal*. Eaton collected this on June 6, 1964 on the south side of Annursnack Hill near the summit (BEDF specimen). Voucher specimen in NEBC collected by Edward Hoar on August 24, 1857 at the east shore of Walden Pond. Link to image.

VIBURNUM OPULUS var. OPULUS (GM8: same; TH: Viburnum opulus (in part)) GUELDER-ROSE

Pratt and Hosmer do not list this. Eaton says it is an occasional escape from cultivation. No specimen in Thoreau herbarium or reference to this in his *Journal*. Voucher specimen in NEBC collected by Eaton on May 28, 1964 in a thicket at the edge of Millbrook Meadow in the rear of Middlesex Institute for Savings. <u>Link to image</u>.

VIBURNUM OPULUS var. AMERICANUM (GM8: Viburnum trilobum; TH: Viburnum opulus (in part))

## HIGHBUSH CRANBERRY

Pratt says he introduced this from Vermont. Hosmer does not list this and does not include it in his list of Pratt introductions. Eaton says it is rare, known from a single plant from which he collected a sample. Two specimens in Thoreau's herbarium are not from Concord. References to this in Thoreau's Journal, all using the common name "tree-cranberry," are to occurrences in Maine or New Hampshire. This author found this in a swamp at Conantum (same swamp where this author found Chamaecyparis) on May 5, 1979, in a swamp southwest of Annursnack Hill on June 6, 1980 (specimen collected by this author on June 10, 1980 from same station), by a stone wall near the Concord River in the vicinity of Punkatasset Hill on June 15, 1980, and in flower in the southern part of the Estabrook Woods on May 22, 1982 (herbarium specimens missing). The fact that Middlesex County is at the southeastern limit of the range for this species, that Thoreau, Pratt and Hosmer never saw it in Concord as a native plant, and that Pratt introduced it, suggests that all Concord occurrences derive from Pratt's introduction of it. Voucher specimen in NEBC (and in BEDF) collected by Eaton on June 1, 1958 in low ground near Second Division Brook about 200 meters west of Old Marlborough Road near the Sudbury town line. Link to image.

## **Amaranthaceae** (GM8: same; TH: Amarantaceae)

AMARANTHUS ALBUS (GM8: same; TH: Amarantus albus)

TUMBLEWEED

Pratt does not list this. Hosmer says it is very common. Eaton lists this in an appendix as probably in Concord. Specimen in Thoreau herbarium without date or locality. There are about two references to this in Thoreau's *Journal*. One of these is to a garden occurrence and the other is not specifically to a wild occurrence. The *Flora of Middlesex County, Massachusetts* (1888) states that this is common. Laurence E. Richardson collected this on September 13, 1960 at Harvard Radio [possibly referring to General Radio Company in Concord at this time] (BEDF specimen). Voucher in GH collected by Emile F. Williams on August 27, 1908 at an asparagus field. Link to image.

Amaranthus hybridus (GM8: same; TH: Amarantus hybridus) SMOOTH AMARANTH

Pratt and Eaton say this is common. Hosmer does not list it, although his listing of the rare escape, Amaranthus hypochondriacus, found only at a dump, might be Amaranthus hybridus. Specimens in Thoreau's herbarium without date or locality labeled as this and Amaranthus hypochondriacus appear to be Amaranthus hybridus. There are about six

references to Amaranthus hybridus in Thoreau's *Journal*. Three references to Amaranthus hypochondriacus in Thoreau's *Journal* might be either species, although his reference on September 14, 1852 appears to be Amaranthus hypochondriacus based on his description and habitat -- "bright red-purple flowers" on Emerson's muck-heap in the [Cambridge] Turnpike. Eaton collected this on September 17, 1961 in waste ground near a cultivated field (BEDF specimen). Voucher in GH collected by William Boott on August 30, 1866 with no locale in Concord given. Link to image.

Amaranthus retroflexus (GM8: same; TH: Amarantus reflexus)
REDROOT

Pratt refers to this as a troublesome weed. Hosmer and Eaton say it is common. No specimen in Thoreau herbarium or reference to this in his *Journal*. Voucher specimen in NEBC collected by Eaton on July 24, 1957 at the edge of a corn field, his identification as Amaranthus hybridus changed by H.E. Ahles. Link to image.

AMARANTHUS TUBERCULATUS (GM8: Acnida altissima; TH: Montelia tamariscina)
TALL WATER-HEMP

Pratt and Hosmer do not list this. Eaton says this is a casual escape not seen in recent years. No specimen in Thoreau herbarium or reference to this in his *Journal*. Voucher specimen in GH (and in Yale University herbarium) collected by Emile F. Williams on September 17, 1899 "along the river." Link to image.

Chenopodiastrum simplex (GM8: Chenopodium hybridum var. gigantospermum; TH: Chenopodium hybridum - misapplied)

MAPLE-LEAVED GOOSEFOOT

Pratt says this is not common. Hosmer calls it common. Eaton says it is infrequent. Specimen(s) in Thoreau herbarium without date or locality. There are about four references to this in Thoreau's *Journal*, none with particularly specific locale. Eaton collected this on September 24, 1967 at the edge of a thicket near Angier Mill site on roadside of Barrett's Mill Road (BEDF specimen), consistent with Thoreau *Journal* entries finding it on his way to Annursnack Hill. Voucher specimen in NEBC collected by Emile F. Williams on August 30, 1908 in railroad yard. Link to image.

CHENOPODIUM ALBUM (GM8: same + C. paganum (misapplied, in part) + C. lanceolatum; TH: same)

## LAMB'S-QUARTERS

Pratt calls this a common garden weed. Hosmer and Eaton say it is very common. Two specimens in Thoreau herbarium without locality, only one of which is dated -- September 1, 1856, not referred to in the *Journal* entry for that date and while in Concord and Lincoln. There are about 20 references to this in Thoreau's *Journal*. Emile F. Williams collected this on September 20, 1896 at roadside along Lowell Street (GH specimen). Eaton collected this on August 7, 1957 on the dry gravel floor of a gravel bank of Thoreau Street and Walden Street, and (as Chenopodium paganum) on October 4, 1959 at an abandoned dump off Laws Brook Road, but it might be Chenopodium berlandieri var. bushianum (both BEDF specimens). Voucher specimen in NEBC collected by Eaton September 18, 1962 at a gravel farm road at the Kenney farm on Virginia Road. Link to image.

Chenopodium berlandieri var. bushianum (GM8: C. paganum (misapplied, in part); not scientifically described until 1929, would be included under C. album in Thoreau's time) VILLAGE GOOSEFOOT

Eaton says this is occasional. One or both specimens in Thoreau's herbarium labeled as Chenopodium album and *Journal* reference to Chenopodium album might be this species. An Eaton specimen in BEDF collected as Chenopodium paganum on October 4, 1959 at an

abandoned dump off Laws Brook Road might be this species. Voucher specimen in NEBC collected along a roadside by Emile F. Williams on September 20, 1896. <u>Link to image.</u> DYSPHANIA AMBROSIOIDES (GM8: Chenopodium ambrosioides; TH: Chenopodium ambrosioides)

**MEXICAN-TEA** 

Pratt and Hosmer do not list this. Eaton says this is frequent. No specimen in Thoreau herbarium or reference to this in his *Journal*. Eaton collected this on September 20, 1961 off Laws Brook Road in waste ground near piggery (BEDF specimen). Voucher specimen in NEBC collected by Eaton on October 5, 1952 at edge of thicket near old Lowell Road railroad station. Link to image.

DYSPHANIA BOTRYS (GM8: Chenopodium botrys; TH: Chenopodium botrys, Ambrina botrys) JERUSALEM-OAK

Pratt, Hosmer and Eaton do not list this. Specimen(s) in Thoreau herbarium without date or locality. There are about six references this in Thoreau's *Journal* at least one of which is occurrence in Concord not in a cultivated setting (Hunt cellar hole). Thoreau's specimen is accepted as the voucher for this in Concord. Link to image.

## **Anacardiaceae** (GM8: same; TH: same)

RHUS AROMATICA var. AROMATICA (GM8: same; TH: same)

FRAGRANT SUMAC

Pratt, Hosmer and Eaton do not list this. No specimen Thoreau herbarium or reference to this in his *Journal*. This author first found it on October 21, 1979 in a thicket near the edge of a pasture in the vicinity of Thoreau's Hollowell Place (Kingman house in 1970s). This author collected a flowering specimen here on May 3, 1980 and a fruiting specimen here on June 15, 1980 (BEDF specimen). This author also found another colony near this station in pine woods. This author also collected it on July 16, 1981 along a trailside thicket southwest of Punkatasset Hill behind the former Minot Pratt residence, probably a persistent plantation, but likely subsequently landscaped away (BEDF specimen). Voucher specimen in NEBC collected by this author on October 21, 1979 near the Hollowell Place. Link to image.

Rhus copallinum var. copallinum (GM8: Rhus copallina var. latifolia; TH: Rhus copallina) WINGED SUMAC

Pratt says this is not common, found in fields west of Punkatasset Hill. Hosmer notes just two places where he found it -- John Hosmer Place and Old Marlborough Road. Eaton says this is frequent. Specimen in Thoreau herbarium without date or locality. There are about 30 references to this in Thoreau's *Journal*. Edward Hoar's collection of this in NEBC (cited by Eaton) at "Road to Natick" is very unlikely in Concord. Voucher specimen in GH is Thoreau's specimen. Link to image. (upper specimen)

Rhus glabra (GM8: same; TH: same)

SMOOTH SUMAC

Pratt calls this abundant, especially in the neighborhood of the Estabrook place. Hosmer and Eaton say this is common. Specimen in Thoreau herbarium without date or locality. There are more than 50 references to this in Thoreau's *Journal*. On July 26, 1851 while in Cohasset, MA he notes that this is common in Concord. Eaton collected this on June 22, 1935 in a roadside thicket at the Town Forest (NEBC specimen). Voucher specimen in NEBC collected by Edward Hoar on August 8, 1857 in Oak Meadow now Mink Pond in the Estabrook Woods] in rocky land in shade. Link to image.

Rhus typhina (GM8: same; TH: same)

STAGHORN SUMAC

Pratt simply notes that this occurs on Punkatasset and Fair Haven Hills. Hosmer just notes it on Punkatasset Hill. Eaton says it is infrequent. One specimen (topmost on sheet) in Thoreau herbarium without date or locality and one not from Concord. There are about 14 references to this in his *Journal*. On August 21, 1851 he says "We have all [Rhus species of Bigelow's flora] but the staghorn [sumac, Rhus typhina] in Concord," on July 6, 1856 he refers to it in the yard of his house, and on October 22, 1858 he is surprised to find some small examples of this growing at the top of the [Fair Haven] Cliff (noting also his mother telling him that she found it on the hill behind Charles Davis's). The only location where Thoreau saw this in Concord in the wild was on top of Fair Haven Hill at the Cliff. This author saw this on June 19, 1981 at Punkatasset Hill. Voucher specimen in NEBC collected by Horace Mann, Jr. in 1862 with locale in Concord not given. Link to image.

Toxicodendron radicans subsp. radicans (GM8: Rhus radicans var. radicans; TH: Rhus toxicodendron)

## POISON IVY

Pratt says this is frequent on old walls. Hosmer says it is very common. Eaton says it is common, often abundantly dominant. Specimen in Thoreau herbarium without date collected at Egg Rock. There are about 45 references to this in Thoreau's *Journal*. Eaton collected this on June 22, 1935 in a swamp in the Town Forest (NEBC specimen). Voucher specimen in NEBC collected by Eaton on June 1, 1960 in a sterile, sandy border of oak scrub between Barrett's Mill Road and Strawberry Hill Road. Link to image.

Toxicodendron rydbergii (GM8: Rhus radicans var. vulgaris + var. rydbergii; TH: Rhus toxicodendron var. radicans)

Pratt lists this plant without comment. Hosmer does not distinguish this from Toxicodendron radicans. Eaton says this is locally common. Specimen in Thoreau herbarium without date or locality. There are at least 12 references to this in Thoreau's *Journal*. Voucher specimen in GH is Thoreau's collection. <u>Link to image</u>. (lowermost specimen on sheet)

Toxicodendron vernix (GM8: Rhus vernix; TH: Rhus venenata)

#### POISON SUMAC

Pratt says this is common on the borders of swamps. Hosmer calls it common. Eaton says it is frequent. Specimen in Thoreau herbarium without date or locality. There are about 65 references to this in Thoreau's *Journal*. Eaton collected this on September 17, 1961 in low deciduous woods near the west branch of Second Division Brook near the crossing of Powder Mill Road (NEBC specimen), and on July 2, 1922 at a pond margin [most likely the Harrington pond hole] in Ministerial Swamp (BEDF specimen). Emile F. Williams collected this on October 24, 1897 at Annursnack Hill (GH specimen). Laurence E. Richardson collected this on June 20, 1961 in the bog just south of Walden Pond [Heywood's Meadow] (BEDF specimen). Voucher specimen in NEBC collected by Eaton on June 7, 1935 at a swamp in the Town Forest. Link to image.

**Apiaceae** (GM8: Cruciferae; TH: Cruciferae)

AEGOPODIUM PODAGRARIA (GM8: same; TH: not treated in the manuals used by Thoreau) GOUTWEED

Pratt and Hosmer do not list this. Eaton says it is still uncommon. No specimen in Thoreau herbarium or references to this in his *Journal*. This author found it in flower on June 13,

1983 at the corner of Bow Street and Lowell Road. Voucher specimen in NEBC collected by Eaton on August 6, 1958 on moist ground by roadside at Nine Acre Corner. <u>Link to image</u>. Angelica atropurpurea (GM8: same; TH: Archangelica atropurpurea)

ALEXANDERS
Pratt notes this at two locations -- wet grounds near Mr. Worcester's, and between Joseph Derby's and D. Ferguson's. Hosmer says this is common [in the Concord vicinity]. Eaton says this is rare. Specimen in Thoreau herbarium with no date or locality. There are about 24 references to it in Thoreau's Journal. On July 19, 1851 he refers to it near or at the Hubbard Bridge causeway. On June 23, 1853 he notes this in flower along Nut Meadow Brook as high as one's head. On September 4, 1856 he measures a stem of this at the Corner Spring Swamp (near Hubbard Bridge) finding it 8 feet 8 inches high and seven and a quarter inches in circumference at the base. Most if not all of his references to it in Concord are at the Corner Spring site and at Nut Meadow Brook. C.S. Swan collected this on July 14, 1889 near Acton (NEBC specimen). Voucher in GH collected by C.E. Faxon on July 12, 1877 with no locale in Concord given. Link to image.

## Cicuta bulbifera (GM8: same; TH: same)

Pratt only notes this on the northerly shore of Bateman's Pond. Hosmer says this is rather common and notes it at Bateman's Pond and near Heath's Bridge. Eaton says it is common. Specimen in Thoreau herbarium without date or locality. There are about five references to this in Thoreau's *Journal*. On July 28, 1853 he notes it in flower at Clematis Brook, on July 30, 1853 at Nut Meadow Brook, and on three other occasions without definite locality. Eaton collected this on August 9, 1956 at Great Meadows near the end of the middle dyke where abundant (BEDF specimen). Voucher in NEBC collected by Edward Hoar in September 1857 in swampy land near "Concord Cliffs" [likely the Fairhaven Cliffs]. Link to image.

## Cicuta maculata var. maculata (GM8: same; TH: same)

## SPOTTED COWBANE

Pratt notes it simply in swamps, near Estabrook place. Hosmer, Jarvis and Eaton say it is common. Specimen in Thoreau herbarium without date or locality. There are about 12 references to it in Thoreau's *Journal*. Laurence E. Richardson collected this on August 10, 1970 at the shore of Warner's Pond at the end of Pond Street (BEDF specimen). Voucher specimen in NEBC collected by Edward Hoar on August 8, 1857 at a riverbank. <u>Link to image</u>.

## CRYPTOTAENIA CANADENSIS (GM8: same; TH: same) WILD CHERVIL

Pratt does not list this. It is included without comment in an addendum of three loose pages associated with his manuscript after his death. Listed by Hosmer without comment. Listed by Eaton only in an appendix as unlikely in Concord. No specimen in Thoreau's herbarium. The single reference to this in Thoreau's *Journal* is not to a Concord occurrence. That this was found by this author and Mary Walker in an area near Pratt's residence near many of his other introduced species, and that no locality is given for this by Pratt or Hosmer, makes it most likely that this was introduced from elsewhere in New England (where it is more common). Voucher specimen in BEDF collected in flower by Mary Walker and this author on July 2, 1982 at edge of ridge woods near horse watering hole near Pratt's Brook, about 10 plants with flowers, station subsequently destroyed by landscaping operations. No image available.

## DAUCUS CAROTA (GM8: same: TH: same)

#### QUEEN ANNE'S-LACE

Pratt merely notes this at roadsides and fields and Punkatasset Hill. Hosmer says this is very common. Eaton calls it abundant, a pernicious weed. Specimen in Thoreau herbarium not from Concord and apparently another collection (topmost on sheet) without date or locality. There are about 15 references to this in Thoreau's *Journal*. Voucher specimen in BEDF collected by Laurence E. Richardson on July 4, 1960 along Old Marlborough Road. No image available.

## OSMORHIZA LONGISTYLIS (GM8: same; TH: same)

#### ANISE-ROOT

Pratt says he introduced this from Mt. Wachusett. Hosmer does not list this. Eaton says it is rare, not seen in recent years. No specimen in Thoreau herbarium or reference to this in his *Journal*. Voucher specimen in NEBC collected by Hosmer with no date or locale in Concord. Link to image.

## PASTINACA SATIVA (GM8: same; TH: same)

#### **PARSNIP**

Pratt lists this as along "roadsides, Nine-Acre Corner and other places." Hosmer says this is common. Eaton says it is scarce. Specimen in Thoreau herbarium with no date collected from "Bent's." Thoreau in his *Journal* refers to finding parsnip at Bent's orchard on July 12, 1856 which would be the date of collection as it is the only date he mentions Bent's and this plant. John H. Bent (1815-1873) lived just north of the Almshouse in Concord along Walden Road. There are about seven other references to this in Thoreau's *Journal* but almost none with specific locale. Voucher specimen in BEDF collected by this author on August 30, 1980 along a roadside field east of Perry Farm on Lexington Road. No image available.

PEUCEDANUM PALUSTRE (GM8: not listed; TH: not treated in the manuals used by Thoreau) MILK-PARSLEY

Pratt and Hosmer do not list this. Eaton says this is rare. No specimen in Thoreau herbarium or reference in his *Journal*. This was first found in Concord by Laurence Richardson in 1970. This was only the second collection in New England. Eaton collected this at one of Richardson's stations on October 3, 1970 (NEBC specimen). This author found it in blossom on July 6, 1979 in a meadow near the Minuteman Statue, and subsequently found it generally not only in the North Bridge area, but also at Great Meadows. This species is said to have established itself presently (2013) in the New World only in eastern Massachusetts. Voucher specimens in NEBC collected by Richardson on August 19, 1970 abundant in a damp field near a brook crossing Liberty Street near Flint's Bridge and at Great Meadows at edge of water at edge of dyke. Link to image.

Sanicula marilandica (GM8: same; TH: same)

## **BLACK SNAKEROOT**

Pratt and Hosmer say this is common. Eaton says it is uncommon. Specimen in Thoreau herbarium without date or locality. There are just five references to this in Thoreau's *Journal*, all in Concord. The only reference with a particular locality is on June 2, 1854 where he finds it in blossom at the Island (at Egg Rock). On June 25, 1932 Eaton collected this in low deciduous woods at Conantum (BEDF specimen). Eaton collected this on August 8, 1957 at Martha's Point and on September 9, 1957 on the east side of Bateman's Pond (location of specimens unknown). Colleen Handel collected this in 1972 at the lime quarries in Estabrook Woods (BEDF specimen). Cherrie Corey photographed this in flower at the lime quarries of the Estabrook Woods in June 2014. On September 13, 2015 Cole Winstanley found this as one of the dominant plants on a drumlin in the woods west of White Pond near the Sudbury

line west of the railroad tracks. Voucher specimen in NEBC collected by Edward Hoar on June 14, 1858 with no locale in Concord given. <u>Link to image.</u>

Sium suave (GM8: same; TH: Sium lineare, Sium latifolium - misapplied) WATER-PARSNIP

Pratt, Hosmer (as Sium cicutaefolium) and Eaton say this is common. One of the Sium specimens in Thoreau herbarium was collected on August 29, 1857 which relates to his *Journal* entry for this day noting it at Owl Nest Swamp. Another Thoreau specimen has no date or locality. There are about 35 references to this in Thoreau's *Journal*. William D. Countryman and Laurence E. Richardson collected this by the Sudbury River near the South Bridge on on August 24, 1968 (VT specimen). Eaton collected this on July 25, 1969 in Wheeler Meadow at the margin of the Nashawtuc Road causeway in the upper (drier) part of the meadow (NEBC specimen). Laurence E. Richardson collected this on August 7, 1970 on a bank of the Sudbury River (BEDF specimen). Cherrie Corey (2014) reported this still to be plentiful in floodplain shorelines such as at the Concord River, Mill Brook, Great Meadows (visible along dike trail) and Spencer Brook. Voucher specimen in NEBC collected by Edward Hoar on August 10, 1857 at a riverbank at the foot of his garden [which would have been at the Sudbury River]. Link to image.

Zizia aurea (GM8: same; TH: same, Thaspium aureum - misapplied)
GOLDEN ALEXANDERS

Pratt says this is rather rare. Hosmer lists four sites in the Concord vicinity (including his Rockery) of which only Lexington Road and Sandy Pond Road might be wild occurrence in Concord. Eaton says this is common (probably in error). No specimen in Thoreau herbarium. The only clear reference to this in Concord in Thoreau's *Journal* is on June 2, 1852 where he mentions it near or beyond the East Quarter schoolhouse [on Lexington Road], which is likely the area Hosmer refers to. Voucher specimen in NEBC collected by James Lund with no date or locale. Link to image.

**Apocynaceae** (GM8: Apocynaceae + Asclepiadaceae; TH: Apocynaceae + Asclepiadaceae) Apocynum androsaemifolium (GM8: same; TH: same) SPREADING DOGBANE

Pratt simply gives habitats. Hosmer and Eaton say this is common. Three specimens in Thoreau herbarium without date or locality. There are about seven references to this in Thoreau's *Journal*, although some references might be to the hybrid Apocynum x floribundum [= Apocynum androsaemifolium X Apocynum cannabinum = Apocynum medium of GM8]. Jarvis reports this in road near [Nine-Acre] Corner. On July 19, 1920 Eaton collected this in an upland clearing along Estabrook Road (BEDF specimen). Eaton collected this (identified by him as Apocynum medium but re-identified later by H.E. Ahles) on July 10, 1958 in sandy soil near the middle pond of Second Division Brook (NEBC specimen). Voucher specimen in NEBC collected by Edward Hoar on August 9, 1858 with no locale in Concord given. Link to image.

Apocynum cannabinum (GM8: same + Apocynum sibiricum; TH: same, including var. hypericifolium and Apocynum hypericifolium)
INDIAN HEMP

Pratt says this is rare, found on the south slope of Punkatasset Hill near the river. Hosmer says it is common. Eaton says it is uncommon. Specimens labeled as this with a question mark in Thoreau herbarium collected on August 9, 1856 at the Island and at the "Stone Bridge." Thoreau's *Journal* reference of August 5, 1856 ("At the Assabet stone bridge ..."

[present-day Elm Street/Route 2 bridge over the Assabet River]) agrees with the "Stone Bridge" of his undated specimen and gives a description which agrees with the hybrid Apocynum x floribundum and which would explain Thoreau's uncertainty on this date and on the specimen. His *Journal* reference of August 9, 1856 ("... close to the rock [Egg Rock] at the Island ...") gives a description that matches Apocynum cannabinum. On this date he also remarks that "The one found the 5<sup>th</sup> was between this and the common [i.e., Apocynum androsaemifolium], ..." further indicating that the one at the Assabet stone bridge was the hybrid. His *Journal* references to this are about 12 (about half of which are not to specific occurrence in Concord) which include the hybrid as just noted. Eaton collected this on July 2, 1959 along railroad track near entrance to lowest dyke of Great Meadows (NEBC specimen). Voucher specimen in NEBC collected by Eaton on July 20, 1953 in gravel edge of parking area in front of old harness factory in West Concord near Main Street bridge over Assabet River. Link to image.

Asclepias amplexicaulis (GM8: same; TH: Asclepias obtusifolia)

Pratt says this is sparingly scattered in all quarters of the town. Hosmer says this is rather common. Eaton says it is frequent. Specimen in Thoreau herbarium without date or locality. There are only six references to this in Thoreau' *Journal*. His first *Journal* reference of July 9, 1852 suggests that he is probably finding it for the first time "Methinks I have found the Amplexicaulis obtusifolia ..." None of the *Journal* references define a locality, but the initial reference and the last one on September 21, 1856 suggest the vicinity of Fair Haven Cliff. Jarvis notes this on July 21, 1835 near Caleb French. Eaton collected this on September 15, 1928 in moist peaty ground in Ministerial Swamp (BEDF specimen). Laurence E. Richardson collected this on July 13, 1962 along Old Marlborough Road (BEDF specimen). This author found it in 2007 along Old Marlborough Road approximately across from Concord Middle School (Sanborn School) with Prunus pumila var. susquehanae. Voucher specimen in GH collected by Mrs. Livermore in July 1889 with no locale in Concord given. Link to image.

Asclepias exaltata (GM8: same; TH: Asclepias phytolaccoides)

## POKE MILKWEED

Pratt says this is rare, finding it only in the northerly part of Concord and not more than three or four plants in all. Hosmer simply reports its habitat (swamps). Eaton says it is infrequent and notes it in the Estabrook Woods. Specimen in Thoreau herbarium without date or locality. There are just two references to this in Thoreau's Journal. On July 2, 1854 he reports finding it in Lincoln, MA, but on July 8, 1856 he reports finding it in the "spring wood-lot" along with the Circaea alpina (which he collects) on his way to Baker Farm by boat down the Sudbury River. The specimen labeled by him Circaea alpina in his herbarium notes the location as "Corner Spring" which is in Concord. Eaton collected this on August 23, 1957 on a shaded bank along Old College Road (BEDF specimen). This author found it in flower on June 24, 1979 on a north-running peninsula-ridge in a swamp northeast of the lime kiln in the Estabrook Woods, in flower on June 18, 1981 north of the Estabrook house site and another station east of it, in flower (and collecting it) on July 5, 1982 at trailside in the vicinity of Well Meadow, and on dates not recorded -- near the lime kiln in Estabrook Woods and in the Pratt vicinity of Punkatasset Hill. Cole Winstanley found nine plants of this in fruit in talus below a cliff to the southwest of the Bemis Cliffs and four plants at the Bemis Cliffs on Aug. 28, 2015. On June 26, 2016 Cole Winstanley found 18 scattered plants of this a few of which were in bloom from the area surrounding the swamp of this author's swamp peninsula (described above) to the lime quarries to the lime kiln in Estabrook Woods. Voucher specimen in NEBC collected by Eaton on August 17, 1957 at the edge of a wood road in Estabrook Woods. Link to image.

Asclepias incarnata subsp. pulchra (GM8: same; TH: same, Asclepias pulchra) SWAMP MII KWEED

Pratt distinguishes variety pulchra from the typical variety, but only variety pulchra is known from Middlesex County. He says this species is common and notes an occurrence in the west part of the town on the road leading to Wetherby's Mill. Hosmer likewise distinguishes the two varieties and calls both common. Eaton says this is common. Specimen in Thoreau herbarium without date or locality. There are about 30 references to it in Thoreau's Journal. Eaton collected this on October 9, 1921 in a moist glade north of Angier's Mill Pond, and on July 2, 1922 at a pond margin in Ministerial Swamp [likely the Harrington pond hole where this author saw it in the late 1970s] (both BEDF specimens). Cherrie Corey (2014) reported this growing abundantly along all branches of the dike trail at Great Meadows, around Borden Pond, at Moore's Swamp, and along Spencer Brook from the short northbound trail on the east side that dead-ends at an overlook. Voucher specimen in NEBC collected by Edward Hoar on September 18, 1886 on the south shore of the Assabet River below the reformatory about a quarter of a mile. Link to image.

Asclepias purpurascens (GM8: same; TH: same)

PURPLE MILKWEED

Pratt says this is rare, chiefly near the Sugar Maple grove [in Conantum]. Hosmer says this is common [in the Concord vicinity]. Eaton says it is rare and notes the Estabrook Woods. No specimen in Thoreau herbarium. There are only three references to this in Thoreau's *Journal*. Only the entry for July 3, 1852 is to an actual occurrence in Concord but without any comment. Since Thoreau later [July 18, 1854] mistook a form of the common species Asclepias syriaca to be Asclepias purpurascens, it is most likely that the 1852 reference is also an error. Eaton collected this on August 23, 1957 on a wood road west of Punkatasset Hill between Raymond Emerson's place [at the end of the paved section of Estabrook Road] and the Estabrook Woods (NEBC specimen). Voucher specimen in GH collected by Emile F. Williams on July 3, 1910 at Nine Acre Corner. Link to image.

Asclepias quadrifolia (GM8: same: TH: same)

Pratt says he did not see it in Concord but that Thoreau found it by the roadside somewhere in the Nine-Acre Corner district. Hosmer only cites this at a location near Concord. Eaton includes this in a list of species reliably reported but not represented by known specimens. No specimen in Thoreau herbarium. There are two references to this in Thoreau's *Journal*. On June 24, 1852 Thoreau reports finding an orchid "in a shady low copse on Corner Road [now Sudbury Road], near the Asclepias quadrifolia,". On June 21, 1853 Thoreau on a visit to Conantum reports finding (either en route or there) this species already in flower for some days. It is noteworthy that Thoreau did not share the location of this locally rare species with his closest botanical friends, Minot Pratt and Edward Hoar. This suggests that he considered it sufficiently vulnerable due to its limited quantity as not to warrant collection for his herbarium. These considerations and the distinctiveness of this species are the basis for accepting his report as adequate for inclusion in this flora.

Asclepias syriaca (GM8: same; TH: same, Asclepias cornuti)

Pratt merely states it occurs at roadsides and fields everywhere. Hosmer says it is very common. Eaton says it is common, often weedy and troublesome. Two specimens in Thoreau herbarium without dates, one up the railroad [toward Fitchburg] beyond the mile post and the other at Brooks Crossing. The railroad specimen can be associated with his *Journal* entry of July 18, 1854 which refers to finding it up the railroad (in the vicinity of the Derby Bridge over the Assabet River) on June 25, 1854. The Brooks Crossing specimen can be associated

with his *Journal* entry for July 5, 1856. There are at least 20 references in Thoreau's *Journal* to this species in particular with additional references likely simply as "milkweed." Voucher specimen in NEBC collected by Eaton on August 23, 1957 along a dry roadside. <u>Link to image</u>.

Asclepias tuberosa subsp. tuberosa (GM8: same; TH: same) BUTTERFLY-WEED

Pratt says this is rare, noting that he found a single plant in flower among bushes in the dry fields near where Peter Hutchinson lived, and finding a few plants in the open rocky woods near the Lime-kiln road [in Estabrook Woods]. Hosmer does not list this. Eaton says it is rare. No specimen in Thoreau's herbarium. There are only four references to it in Thoreau's Journal, of which only one refers to an occurrence in Concord -- noting a Miss Brown of the factory quarter [in West Concord] speaking of it in that neighborhood. Laurence E. Richardson collected this on July 3, 1960 at Hildreth Corner (BEDF specimen). On July 1, 2016 Cole Winstanley found three plants of this in flower in the Brister's Hill area. Voucher specimens in NEBC on one sheet collected by Eaton on July 28, 1929 possibly introduced on a shaded bank on the edge of woods along a river path near Brewster's Camp [southeast of Punkatasset Hill], and on July 21, 1937 a single plant in J. Boardman's field, a dry, sandy field (not mowed or grazed) southwest foot of Punkatasset Hill [the two collection sites about a mile apart near the Concord River]. Link to image.

Asclepias verticillata (GM8: same; TH: same)

Pratt and Hosmer do not list this. Eaton says this is rare, at or near the northeastern limit of its range and not seen since 1962. No specimen in Thoreau herbarium or reference to this in his *Journal*. Eaton collected a stalk from single plant with 6-8 stalks on a dry, rocky slope near the exposed ledge at Martha's Point on August 18, 1957 (NEBC specimen). Voucher specimens on same sheet in NEBC collected by Edward Hoar in on September 18, 1879 at Conantum Cliff [Hoar's name for Martha's Point] on rocky land and by Mr. [George P.] Bradford in July 1878 at the same locality. Link to image.

VINCA MINOR (GM8: same; TH: same)

## **COMMON PERIWINKLE**

Pratt and Hosmer do not list this. Eaton says it is occasional, locally abundant as an escape from cultivation. No specimen in Thoreau herbarium or reference to it in his *Journal*. Voucher specimen in NEBC collected by Eaton on September 13, 1957 abundant and thoroughly naturalized in dry oak woods on a wooded knoll near the Sudbury River southeast of Nine Acre Corner [current Nashawtuc Country Club]. <u>Link to image</u>.

VINCETOXICUM NIGRUM (GM: Cynanchum nigrum; TH: not treated in the manuals used by Thoreau)

## **BLACK SWALLOW-WORT**

Pratt does not list this. Hosmer says it is at Pratt's Spring and near N.A. Davis's. No specimen in Thoreau herbarium or reference to this in his *Journal*. Eaton says it is infrequent. This author collected it in fruit on August 19, 1981 in a waste area near the Ruggerio piggery south of Ministerial Swamp (Old Rifle Range) (BEDF specimen), and at another location in Concord. Laurence E. Richardson collected this on June 6, 1961 along Barrett's Mill Road opposite the [Rosita and Elizabeth] Corey residence (BEDF specimen). In October 2014 Cherrie Corey found a healthy population of this along the southwestern shoreline of Walden Pond just under the railroad bed. In 2021 she reported that this had increased in the preceding 10 years to become frequent. Voucher specimen in NEBC collected by Eaton on June 17, 1934 in an old field near the Old Manse [Cynanchum louiseae annotation on sheet is included in Vincetoxicum nigrum]. Link to image.

**Aquifoliaceae** (GM8: same; TH: same)

Ilex laevigata (GM8: same: TH: same, Prinos laevigatus)

SMOOTH WINTERBERRY

Pratt lists this but comments only on its diagnostic features. Hosmer says it is not common. Eaton lists this only in an appendix as probable in Concord. Specimens in Thoreau herbarium without date or locality or not from Concord. Of the approximately 11 references to this in Thoreau's Journal the only ones with occurrence definitely in Concord are on June 7, 1853 where he sees what he calls probably it in Trillium Woods, on June 15, 1853 in flower in Trillium Woods, on August 24, 1853 in Trillium Woods, on May 24, 1854 probably in the Trillium Woods, June 15, 1854 probably in the Trillium Woods, on September 4, 1857 in a Black Spruce swamp on which date he cut a seven and a half foot stem which he brought home made into a ring around his neck, and on May 31, 1858 probably in Trillium Woods. Cole Winstanley found a large colony of this winterberry in a small, brushy sphagnous swamp northeast of Boaz's Meadow in December 2015. This author found this in the Ministerial Swamp (Old Rifle Range) on June 22, 1978 almost past flowering (BEDF specimens of flowers, fruit and winter buds), on August 3, 1978 at Ledum Swamp, and on September 16, 1979 along a brook west of Annursnack Hill. Voucher specimen in NEBC collected by this author on June 3, 1981 in flower at Ministerial Swamp. Link to image.

Ilex mucronata (GM8: Nemopanthus mucronata: TH: Nemopanthes canadensis)

MOUNTAIN-HOLLY

Pratt simply says it occurs in cold swamps. Hosmer lists it for Heath Swamp [Kalmia Swampl, Harrington Swamp [Ministerial Swampl, and Gowing's Swamp. Eaton says it is infrequent, in unpublished notes referring to it at Little Goose Pond, Gowing's Swamp and in a swamp at the Town Forest. Specimen in Thoreau herbarium without date or locality. There are nearly 40 references to this in Thoreau's Journal. Eaton collected it on May 18, 1935 in the Town Forest in a swamp near Walden Street where common (NEBC specimen). This author collected it on May 7, 1979 and June 21, 1980 at Kalmia Swamp (BEDF specimen), on May 9, 1979, August 30, 1979 and December 23, 1979 at Ministerial Swamp (BEDF specimen), and saw it perhaps one or two other places. In 2021 Cherrie Corey reported that this had decreased to become only occasional. Voucher specimen in NEBC collected by Eaton on June 9, 1970 in dry deciduous woods about 50 meters in from Valley Road on the north side. Link to image.

Ilex verticillata (GM8: same, including var. padifolia & var. tenuifolia: TH: same, Prinos verticillatus)

### COMMON WINTERBERRY

Pratt, Hosmer and Eaton say this is common. Specimen in Thoreau herbarium without date or locality. There are a little more than 70 references to this in Thoreau's *Journal*. Eaton collected this on October 10, 1957 in the swamp north of Sleepy Hollow Cemetery [Moore's Swamp], and on June 22, 1935 in a swamp in the Town Forest (both NEBC specimens). Timothy Plowman collected this on May 26, 1968 along a Concord River bank (Harvard University specimen). K. Shea and E. Blair collected this on August 16, 1977 at the edge of a marsh at Great Meadows National Wildlife Refuge (CONN specimen). Cole Winstanley (2014) reported this to be in many wooded swamps, for example, in the Estabrook and Wright Woods. Voucher specimen in NEBC collected by Emile F. Williams on September 20, 1896 on the banks of the Assabet River. Link to image.

**Araliaceae** (GM8: same; TH: same)
Aralia hispida (GM8: same: TH: same)

**BRISTLY SARSAPARILLA** 

Pratt says this is on Fair Haven Hill and particularly abundant on the dry, sandy clearings near the crossings of the Framingham and Lowell Railroad [a railroad opened in 1871 that ran through Concord south to north then veering northwest -- passing just to the west of White Pond, through Jenny Dugan Desert, into West Concord and just to the east and north of Warner's Pond; the section passing through Concord was abandoned in the 1980s]. Hosmer calls this common, also referring to the Lowell railroad line. Eaton says this is frequent. Two specimens in Thoreau herbarium without date or locality. There are about 20 references to this in Thoreau's *Journal*. Eaton collected this on July 2, 1922 in a wet thicket at Ministerial Swamp on dryish, peaty ground, and on June 22, 1930 in dry oak woods in the vicinity of Goose Pond (both BEDF specimens). Voucher specimen in NEBC collected by Eaton on June 22, 1935 in dry scrub and open woods in the Town Forest. Link to image.

Aralia nudicaulis (GM8: same; TH: same)

## WILD SARSAPARILLA

Pratt calls this abundant in all moist woodland. Hosmer says it is common. Eaton says it is very common, often abundant. Specimen in Thoreau herbarium without date or locality. There are nearly 40 references to it in Thoreau's *Journal*. S. Boson collected this on May 25, 1929 at Walden Pond (GH specimen). Voucher specimen in NEBC collected by Edward Hoar on May 21, 1858 with no locale in Concord given. <u>Link to image</u>.

Aralia racemosa subsp. racemosa (GM8: same; TH: same) SPIKENARD

Pratt says this is rare -- a few plants at the foot of the [Fair Haven] Cliffs, and a few near Bateman's Pond, and other places. Hosmer only notes it at Bateman's Pond. Eaton says it is rare. Specimen in Thoreau herbarium without date or locality. There are about 18 references to this in Thoreau's *Journal*. He mentions finding it on July 22, 1853 at Azalea Brook [north of Nashawtuc Hill, emptying into the Assabet River from the south], on July 24, 1853 at the Corner Spring with green berries and a few flowers -- a plant six feet high and seven feet broad, on September 4, 1856 by bass (?) beyond William Wheeler's, on September 12, 1858 apparently at the Fair Haven Cliffs, on September 1, 1859 in the shade at Saw Mill Brook [running from Lincoln to Concord] on his way to Flint's Pond, and other references to occurrence at these sites or sites without specific locale or outside of Concord. This author found this on June 21, 1979 along a stone wall southeast of Martha's Point, on September 4, 1980 along a railroad bed at Thoreau's July 1853 Azalea Brook site (continued presence there confirmed by this author in 2007), and on June 8, 1981 at the head of a vale that ends at Martha's Point a large colony with some plants two meters high. Voucher specimen in NEBC collected by Eaton on May 23 and August 5, 1958 in low, rocky woods adjacent to diorite outcropping, just south of Martha's Point path. Link to image.

Hydrocotyle americana (GM8: same; TH: same)

#### MARSH PENNYWORT

Pratt says this is abundant in swamps. Strangely Hosmer does not list this. Eaton says it is common. Specimen in Thoreau herbarium without date or locality. Thoreau refers to this only five times in his *Journal*, including August 23, 1852 by the Lee place path, and on June 27, 1854 in flower in Potter's field near Corner road [now Sudbury Road] by an apple tree. Jarvis collected this on August 11, 1836 "S.W. [southwest] of C. Storrs" (MASS specimen). Eaton collected this at a springhead in open, rich woods near Martha's Point (BEDF specimen). This author collected this on July 11, 1982 at a small brook near the springhead

at Well Meadow Head (BEDF specimen) and found it in other springy places. Voucher specimen in NEBC collected by Eaton on July 4, 1920 in a sphagnous meadow at the edge of Jenny Dugan Brook at the Concord Country Club. Link to image.

**Aristolochiaceae** (GM8: same; TH: same)

ASARUM CANADENSE (GM8: same; TH: same)

WILD GINGER

Pratt says he introduced this from Vermont, and it is also so noted in his copy of Gray's Manual of Botany. Hosmer says it is near C. Burrill's and Estabrook Road. A list of Pratt introductions prepared by Hosmer published in Rhodora (1899) includes a footnote that states this species is believed to have been established in Concord prior to Pratt's work. Eaton says it is rare, not seen in recent years, treating it as native, but allowing that it is possibly introduced, stating incorrectly that Pratt did not record it as introduced. Specimen in Thoreau herbarium not from Concord. The only two references to this in Thoreau's Journal relate to its occurrence in Brattleboro. This author found it in the woods near the Pratt residence on May 1, 1983 and on Monument Street on Punkatasset Hill north of the Pratt residence in 2007. The Flora of Middlesex County, Massachusetts of Dame and Collins (1888), other than noting Pratt's introduction into Concord, only has a record ("locally established") for Westford which is to the north and west of Concord. The distribution of this species in New England shows Middlesex County to be at or just beyond the southeastern limit of its range. Since neither Pratt nor Thoreau saw this naturally in Concord and since the species would be at the limit of its range, the occurrences in Concord are deemed to be derived from Pratt and possibly others. Voucher specimen in NEBC collected by F.W. Hunnewell on May 30, 1915 in "woods" with no locale specified. Link to specimen.

Asteraceae (GM8: Compositae; TH: Compositae)

Achillea millefolium (GM8: same; TH: same)

**COMMON YARROW** 

Pratt and Eaton say this is common. Hosmer calls it very common. Specimen in Thoreau herbarium without date or locality. There are about 40 references to this in Thoreau's *Journal*. Eaton collected this on October 30, 1921 in a field west of Angier's Mill Pond (BEDF specimen). David Potter collected this along the Cambridge Turnpike on July 20, 1930 (GH specimen). Voucher specimen in NEBC collected by Edward Hoar on August 5, 1858 along a roadside. Link to image.

AGERATINA ALTISSIMA var. ALTISSIMA (GM8: Eupatorium rugosum; TH: Eupatorium ageratoides)

WHITE SNAKEROOT

Pratt says he introduced this from Mt. Wachusett. Hosmer simply notes it in the "Cemetery' [Sleepy Hollow Cemetery] in 1900, 1901 and 1902. The list of Pratt introductions prepared by Hosmer and published in *Rhodora* (1899) includes this in a list of those not seen in recent years, because he discovered it after 1899. This is not listed by Eaton in his *Flora* but is included as an accepted species in his unpublished notes. Specimen in Thoreau herbarium not from Concord. The only two references to this in Thoreau's *Journal* relate to its occurrence in Brattleboro, VT. Voucher specimen in NEBC collected by Horace Mann, Jr., without date or particular locale within Concord. Link to image.

Ambrosia artemisiifolia (GM8: same, including var. elatior; TH: same, Ambrosia elatior, Ambrosia heterophylla)

#### **COMMON RAGWEED**

Pratt says this is common in the gardens of the slothful. Hosmer says it is very common. Eaton calls it abundant. Specimen in Thoreau herbarium without date or locality. There are about 40 references to this in Thoreau's *Journal*. Eaton collected this on September 8, 1967 along the roadside of Barrett's Mill Road near the old mill site (NEBC specimen). Voucher specimen in NEBC collected by Eaton on September 13, 1957 on rocky ground at a roadside near Martha's Point. Link to image.

Anaphalis margaritacea (GM8: same, including var. intercedens; TH: Antennaria margaritacea)

## PEARLY EVERLASTING

Pratt says this is abundant in all parts of the town. Hosmer says this is common. Eaton says it is frequent. Specimen in Thoreau herbarium without date or locality. There are at least 12 references to this in Thoreau's *Journal*. Eaton collected this on September 9, 1934 in a dry, fallow field at Clamshell Bluff (NEBC specimen). In 2021 Cherrie Corey reported that this had decreased to become uncommon. Voucher specimen in NEBC collected by Edward Hoar in September 1857 at the [Fair Haven] Cliffs. Link to image.

Antennaria howellii subsp. neodioica (GM8: Antennaria neodioica var. neodioica, including var. chlorophylla; TH: not scientifically described until 1897, would have been treated as Antennaria plantaginifolia in Thoreau's time)

## **SMALLER PUSSYTOES**

Eaton says this is very common. No specimen in Thoreau herbarium. Voucher specimen in NEBC collected by Eaton on May 11, 1930 in dry, open, oak woods in wood lot near Goose Pond. Link to image.

Antennaria neglecta (GM8: same; TH: not scientifically described until 1897, would have been treated as Antennaria plantaginifolia in Thoreau's time)
FIELD PUSSYTOES

Eaton says this is frequent. No specimen in Thoreau herbarium. Eaton collected this on April 30 1922 in a dry pasture at Helsher's (BEDF specimen). Laurence E. Richardson collected this on May 16, 1960 along the railroad [bed] near the filter beds (BEDF specimen). Voucher specimen in NEBC later identified as this was collected by Edward Hoar on May 2, 1858 with no locale in Concord given. Link to image.

Antennaria parlinii subsp. parlinii (GM8: same; TH: not scientifically described until 1897, would have been treated as Antennaria plantaginifolia in Thoreau's time)
SMOOTH PUSSYTOES

Eaton says this is apparently rare. No specimen in Thoreau herbarium. Voucher specimen in NEBC collected by Eaton on June 10, 1956 on a dry shaded bank along a wood road, Estabrook Road. Link to image.

Antennaria parlinii subsp. fallax (GM8: Antennaria fallax; TH: not scientifically described until 1898, would have been treated as Antennaria plantaginifolia in Thoreau's time) Eaton says this is uncommon. No specimen in Thoreau herbarium. Eaton collected this on May 30, 1956 on a dry, shaded bank along the wood road, Estabrook Road (BEDF specimen). Voucher specimen in NEBC collected by Eaton on May 20, 1956 on a roadside bank along Lowell Road opposite Worthley Farm [1227 Lowell Road]. Link to image.

Antennaria plantaginifolia (GM8: same; TH: same, Gnaphalium plantaginifolium, but both names including several other species)

Pratt and Eaton say this is common. Hosmer calls it very common. But since Pratt and Hosmer knew this in the very broad sense (including several species only later distinguished)

their statements are not useful. Specimen in Thoreau herbarium without date or locality labeled as this species has probably not been critically examined to determine whether it is one of the later described species not distinguished in Thoreau's time. There are about 10 references to this or several other species unrecognized in Thoreau's time in his *Journal*. Eaton collected this on May 11, 1930 in dry, sandy, oak woods on a wood lot near Goose Pond (BEDF specimen). Voucher specimen in NEBC collected by Eaton on May 25, 1956 on a dry, sunny bank. Link to image.

ANTHEMIS COTULA (GM8: same; TH: Maruta cotula)

Pratt, Hosmer and Jarvis say this is very common. Eaton calls it common. Specimen in Thoreau herbarium without date or locality. There are about 16 references to this in Thoreau's Journal. Voucher specimen in NEBC collected by Edward Hoar on August 11, 1858 along a roadside. Link to image.

ARCTIUM MINUS (GM8: same + Arctium nemorosum - misapplied; TH: Lappa major (in part))

## COMMON BURDOCK

Pratt and Eaton say this is common. Hosmer says it is very common. Since this is the only species documented from Concord and is by far the most common of the three species found in New England, Pratt, Thoreau and Hosmer most likely refer to this species. No specimen in Thoreau herbarium. There are about nine references to this or Arctium lappa in Thoreau's *Journal*. Eaton collected this on October 10, 1959 in low ground at roadside on Barrett's Mill Road (NEBC specimen). Voucher specimen in NEBC collected by Eaton on September 9, 1957 in low ground at the edge of a cart road at Middlesex School. Link to image.

ARTEMISIA ABSINTHIUM (GM8: same: TH: same)

#### COMMON WORMWOOD

Pratt does not list this. It is included without comment in an addendum of three loose pages associated with his manuscript after his death. Hosmer simply gives one location -- on Sudbury Road near Hubbardville. Eaton says it is rare. No specimen in Thoreau herbarium or reference to this in his *Journal*. Voucher specimen in NEBC collected by Eaton on August 13, 1934 plentiful in a dry, sandy, fallow field at Clamshell Bluff (see *Rhodora* 38:66). Link to image.

ARTEMISIA FRIGIDA (GM8: same; TH: same)

#### PRAIRIE SAGEWORT

Pratt and Hosmer do not list this. Eaton says it is rare. No specimen in Thoreau herbarium or reference to this in his Journal. Voucher specimen in NEBC collected by Eaton on July 8, 1934 in dry, sandy, fallow field at Clamshell Bluff (see *Rhodora* 38:66). Link to image.

ARTEMISIA LUDOVICIANA subsp. LUDOVICIANA (GM8: same, including var. americana, var. gnaphaloides, and var. latifolia; TH: same, including var. gnaphaloides and var. latifolia) MAN SAGE

Pratt and Hosmer do not list this. Eaton says it is rare. No specimen in Thoreau herbarium or reference to this in his *Journal*. Voucher specimen in NEBC collected by Eaton on July 8, 1934, all in a dry, sandy, fallow field at Clamshell Bluff (see *Rhodora*: 38:65). Link to image.

ARTEMISIA TRIDENTATA subsp. TRIDENTATA (GM8: same; TH: same)

#### **BIG SAGEBRUSH**

Pratt and Hosmer do not list this. Eaton says it was plentiful at Clamshell Bluff until destroyed. No specimen in Thoreau herbarium or reference to this in his *Journal*. Eaton collected this on September 20, 1934 in a dry, sandy, fallow field at Clamshell Bluff where plentiful (see *Rhodora* 38:66), specimen missing. Voucher specimen in BEDF collected by

Eaton on August 6, 1934 in a dry, sandy, fallow field at Clamshell Bluff. Image not available.

ARTEMISIA VULGARIS (GM8: same; TH: same)

**COMMON MUGWORT** 

Pratt and Hosmer do not list this. Eaton says it is uncommon. Specimen in Thoreau herbarium is not from Concord. Thoreau's only *Journal* reference to this is on September 16, 1857 which is associated with his herbarium specimen collected for him in Lincoln, MA by a horticulturist friend, Benjamin Marston Watson (1820-1896) at the house of Loring Henry Austin (1819-1892) whose property in Lincoln Thoreau surveyed in 1853. H. Ahles collected this on October 15, 1977 along a roadside (MASS). Voucher specimen in NEBC collected by Mary Rodman in 1891 without locale in Concord given. Link to image.

BIDENS ARISTOSA (GM8: same, including var. mutica; TH: Coreopsis aristosa) MIDWESTERN TICKSEED-SUNFLOWER

Pratt and Hosmer do not list this. Eaton says it is rare. No specimen in Thoreau herbarium or reference to this in his *Journal*. Voucher specimen in NEBC collected by Eaton on September 20, 1934 in a sandy field at Clamshell Bluff. Link to image.

Bidens beckii (GM8: Megalodonta beckii; TH: same)

WATER-MARIGOLD

Pratt does not list this. It is included without comment in an addendum of three loose pages associated with his manuscript after his death. Hosmer simply says "River." Eaton says formerly common, now rather scarce. Specimen in Thoreau herbarium without date or locality. There are about 24 references to this in Thoreau's *Journal*. Jarvis collected this on August 22, 1836 in the Concord River at Merrick's pasture [which included today's Old Calf Pasture] (MASS specimen). Emile F. Williams collected this in the Sudbury River on August 16, 1908 (GH specimen). Voucher specimen in NEBC collected by Edward Hoar on August 30, 1857 floating in Concord River. Link to image.

Bidens cernua (GM8: same, including var. elliptica; TH: same) NODDING BUR-MARIGOLD

Pratt merely notes the habitat. Hosmer and Eaton say this is common. Two specimens in Thoreau herbarium without legible locality or date except 1857 for one of them. There are about 15 references to this in Thoreau's *Journal*. Laurence E. Richardson collected this on September 21, 1960 at Martha's Point (BEDF specimen). Mary Walker collected this at a bog pond near the Old Rifle Range [Ministerial Swamp] (BEDF specimen). Cherrie Corey reported (2014) seeing this at Great Meadows, Heywood's Meadow, Fair Haven Bay, and White Pond Reservation. Voucher specimen in NEBC collected by Emile F. Williams on September 20, 1896 on the banks of the Concord River. Link to image.

Bidens connata (GM8: same; TH: same (in part))

SWAMP BEGGAR-TICKS

Pratt and Hosmer do not list this. Eaton says it is common. Specimen in Thoreau herbarium without date or locality. There are about eight references to this in Thoreau's *Journal*, but these might include the Bidens tripartita (Bidens comosa of GM8), not distinguished from Bidens connata in Thoreau's time. Eaton collected this on September 22, 1929 on a sandy shore of White Pond, and on August 23, 1957 in an exsiccated pond hole east of the road [Estabrook Road] in the Estabrook Woods (both BEDF specimens). Voucher specimen in NEBC collected by Edward Hoar in September 1857 in "boggy ground near Concord Cliffs [most likely Fair Haven Cliffs]." Link to image.

Bidens discoidea (GM8: same; TH: Coreopsis discoidea)

SMALL BEGGAR-TICKS

Pratt and Hosmer do not list this, but see notes for Coreopsis trichosperma in Appendix E. Eaton says it is local, being abundant along swampy borders of pond-holes beside Estabrook Road. No specimen in Thoreau herbarium or reference to this in his *Journal*. Colleen Handel collected this on August 29, 1972 at the edge of Hutchins Pond in the Estabrook Woods (BEDF specimen). Cherrie Corey photographed this on October 18, 2014 along the northeastern quadrant of Moore's Swamp where there were several shoreline stations. Voucher specimen in NEBC (and in BEDF) collected by Eaton on August 23, 1957 at the swampy border of an exsiccated shallow pond, formerly a swamp, east of road [Estabrook Road] in the Estabrook Woods. Link to image.

Bidens frondosa (GM8: same; TH: same)

#### COMMON BEGGAR-TICKS

Pratt calls this a troublesome weed. Hosmer and Eaton say it is common. Specimen in Thoreau herbarium without date or locality. There are about eight references to this in Thoreau's *Journal*. Thoreau, Pratt, and Hosmer would have treated specimens of Bidens vulgata as Bidens frondosa. Jarvis notes this on September 12, 1834 at the brook beyond Captain Stacy's. William Countryman collected this on October 3, 1970 common at Great Meadows (VT specimen). Voucher specimen in NEBC collected by Eaton (as Bidens vulgata, corrected by H. Ahles to Bidens frondosa) on September 5, 1957 in low, peaty ground on the south shore of Walden Pond. Link to image.

Bidens laevis (GM8: same; TH: Bidens chrysanthemoides)

## LARGE BUR-MARIGOLD

Pratt says this is common. Hosmer simply notes it at Spencer Brook and Cold Brook. Eaton calls it uncommon. Three specimens in Thoreau herbarium without date or locality. There are about 15 references to this in Thoreau's *Journal*. Eaton collected this on October 9, 1921 at Mill Brook near the bridge on the Cambridge Turnpike (BEDF specimen). Voucher specimen in NEBC collected by Edward Hoar in September 1858 in shallow water of the Concord River. Link to image.

Bidens tripartita (GM8: Bidens comosa; TH: Bidens connata (in part))

Pratt and Hosmer do not list this since in their time it was not distinguished from Bidens connata (which they also do not list). Eaton says this is rare with a question mark, known only from one location. No specimen in Thoreau herbarium or *Journal* reference to this, as it was not distinguished in his time. Voucher specimen in NEBC collected by Eaton on September 15, 1928 on a gravelly shore of Goose Pond at his wood lot. Link to image.

CENTAUREA CYANUS (GM8: same; TH: same)

## CORNFLOWER

Pratt and Hosmer do not list this. Eaton says it is occasional. No specimen in Thoreau herbarium or reference to this in his journal. Voucher specimen in NEBC (filed under the synonym Cyanus segetum) collected by Walter Deane on July 4, 1893 along a roadside. <u>Link to image</u>.

CENTAUREA NIGRA (GM8: same; TH: same)

#### **GARDEN CATCHFLY**

Pratt reports seeing a small patch of it by the roadside against the farm of Elijah Wood who later destroyed it, and not seen elsewhere. Hosmer does not list this. Eaton says this is occasional. Specimen in Thoreau herbarium without date or locality. The only specific reference to this is on July 11, 1853 where he notes finding it in flower for some time in low ground on Union Turnpike opposite Elijah Wood's place. His other six *Journal* references to Centaurea generally (all of them later) are likely to be this species. Voucher specimen in

NEBC collected by Eaton on August 15, 1920 in dry scrub, blueberry barren of a recently cutoff woodland in Estabrook Woods  $\frac{1}{2}$  mile south of the lime pits. Link to image.

CENTAUREA STOEBE subsp. AUSTRALIS (GM8: Centaurea maculosa - misapplied; TH: not treated in the manuals used by Thoreau)

Pratt and Hosmer do not list this. Eaton says this is uncommon but spreading rapidly in New England. No specimen in Thoreau herbarium or reference to this in his *Journal*. Voucher specimen in NEBC collected by Eaton on August 6, 1934 in dry, fallow field at Clamshell Bluff. Link to image.

CICHORIUM INTYBUS (GM8: same; TH: same)

**COMMON CHICORY** 

Pratt notes this by the roadside in front of George Keyes's and on Virginia Road. Hosmer says this is very common. Eaton calls it frequent, but rare before 1900. Specimen in Thoreau herbarium without date or locality. There are about 11 references to this in Thoreau's *Journal*. His references to occurrences at particular sites in Concord are on September 26, 1852 where noting this in bloom at Tommy Wheeler's house, on June 29, 1854 flowering early at Simon Brown's, on July 10, 1856 in flower by the railroad causeway on his way to Laurel Glen, and on October 2, 1856 still in flower "here and there" on his way to Fair Haven Cliffs via Hubbard's Meadow. His *Journal* entry of July 9, 1851 records finding this at the railroad stop in Porter's Square, Cambridge where this author saw it still growing as of about 2000. Jarvis also notes this on Virginia Road in July 1834. Voucher specimen in NEBC collected by Eaton on August 21, 1957 in the farm yard at G.[eorge F.] Root's farm [Intervale Farm on Sandy Pond Road]. Link to image.

CIRSIUM ARVENSE (GM8: same; TH: same)

CANADA THISTLE

Pratt says this is frequent by the roadsides, noting it between Punkatasset Hill and the bridge [Flint's Bridge] on Monument Street. Hosmer says this (as Cnicus arvensis) is very common. Eaton calls it very scarce with an exclamation point. Specimen in Thoreau herbarium without date or locality. There are about 13 references to it in Thoreau's *Journal*. This author found it on July 13, 1980 in flower and abundant in a field just west of Crosby Pond, and on September 24, 1982 behind Thoreau's birthplace house on Virginia Road. Voucher specimen in NEBC collected by Laurence Richardson on August 15, 1964 in a heavy stand of Solidago rugosa near a pond off Barnes Hill Road. <u>Link to image</u>.

Cirsium muticum (GM8: same: TH: same)

SWAMP THISTLE

Pratt notes this in the south part of town, borders of Hayward's Saw-mill brook, far up. Hosmer simply notes this (as Cnicus muticus) at "Dam Meadow." Eaton lists this only in an appendix as probable. Specimen in Thoreau herbarium is not from Concord. There are about eight references to this in Thoreau's *Journal*. On August 31, 1853 he notes this in Moore's Swamp behind Indian's field going out of flower. On September 13, 1854 he refers to it at Great Fields "out of bloom, seven or eight rods, perhaps, north of the potato-field and seven feet west of ditch, amid a clump of raspberry vines." On September 4, 1859 he mentions it seemingly in Well Meadow Swamp flowering in prime, some plants six feet high. Although a voucher specimen has yet to be collected from Concord, the reliable reporting of Thoreau, Pratt and Hosmer are accepted for inclusion in this flora.

Cirsium pumilum var. pumilum (GM8: same; TH: same, Cnicus pumilus) PASTURE THISTLE

Pratt, Hosmer and Jarvis say this is common. Eaton says it is rare. Specimen in Thoreau herbarium without date or locality. There are about 24 references to it in Thoreau's Journal.

This author saw it on August 16, 1978 in full bloom at the northwest edge of a sand plain belonging to the Musketaquid Sportsman's Club near Second Division Brook that this author has called the Second Division Mesa, but not seen there the following year. Voucher specimen in NEBC collected by Edward Hoar on September 3, 1888 "Along Miss Prichard cow path wall in grove." Link to image.

CIRSIUM VULGARE (GM8: same; TH: Cirsium lanceolatum)
BULL THISTLE

Pratt only notes the habitat for this. Hosmer and Eaton say it is common. Specimen in Thoreau herbarium without date or locality. There are about nine references to this in Thoreau's Journal. K. Shea and E. Blair collected this on August 16, 1977 in thickets surrounding a deep marsh area in Great Meadows National Wildlife Refuge (MASS specimen). Cherrie Corey reported (2014) finding this at Great Meadows, in the Poor Farm fields by Walden Street, in the Nine Acre Corner fields and at least two other locales. Voucher specimen in NEBC collected by Eaton on October 4, 1959 in a hillside pasture on Annursnack Hill. Link to image.

COREOPSIS LANCEOLATA (GM8: same; TH: same) SAND COREOPSIS

Pratt, Hosmer and Eaton do not list this. No specimen in Thoreau herbarium or references to this in his *Journal*. Cole Winstanley photographed a few plants of this on Aug. 29, 2015 in flower on a bridge over Spencer Brook on a road from Westford Road. Voucher specimen in NEBC (and BEDF) collected by this author on August 28, 1982 well-established along the sandy, open roadside of the north side of Lexington Road near the Lincoln line. <u>Link to image</u>.

Doellingeria infirma (GM8: Aster infirmus; TH: Diplopappus cornifolius) APPALACHIAN FLAT-TOP ASTER

Pratt lists this only noting its habitat. Hosmer lists it without comment. Eaton says it is rare. Specimen in Thoreau herbarium without date or locality. There are about nine references to this in Thoreau's *Journal*. On July 18, 1853 he refers to it (with some uncertainty here, but without uncertainty later) in the copse behind Bittern Cliff [just the right habitat] in flower, and on August 1, 1855 in flower at Conant Orchard Grove. C.C. Field collected this on August 15, 1835 or 1839 at Sleepy Hollow (MASS specimen). Voucher specimens in NEBC collected by F.S. Collins on September 11, 1886 at Punkatasset Hill. Link to image.

Doellingeria umbellata var. umbellata (GM8: Aster umbellatus; TH: Aster umbellatus, Diplopappus umbellatus)

TALL FLAT-TOP WHITE ASTER

Pratt and Hosmer say this is common. Eaton calls it very common. One specimen in Thoreau herbarium without date or locality, the other is from Maine. There are about 18 references to this in Thoreau's *Journal*. Voucher specimen on in NEBC collected by Edward Hoar on September 14 [no year] by the spring near the [Sudbury] river at Conantum. Link to image. Erechtites hieraciifolius var. hieraciifolius (GM8: Erechtites hieracifolius, including var.

praealtus; TH: Erechtites hieracifolius)

**PILEWORT** 

Pratt simply notes its habitat. Hosmer says it is very common. Eaton says it is common. Specimen in Thoreau herbarium without date or locality. There are about 40 references to this in Thoreau's *Journal*. Eaton collected this on September 22, 1929 on a sandy shore of White Pond (BEDF specimen), and on September 5, 1959 in moist, low ground on the south shore of Walden Pond (NEBC specimen). Voucher specimen in NEBC collected by Edward Hoar on August 25, 1857 in woods near north Branch [Assabet River]. Link to image.

Erigeron annuus (GM8: same; TH: Erigeron annuum)

DAISY FLEABANE

Pratt says this is not very common, having found it in the old Hill Grave Yard. Hosmer and Eaton call it common. Specimen in Thoreau herbarium from Concord without date. There are only nine references to this in his *Journal* and not all relate to Concord. Voucher specimen in NEBC collected by Eaton on August 16, 1857 in a weedy field at G.[eorge F.] Root's farm [Intervale Farm on Sandy Pond Road]. Link to image.

Erigeron canadensis (GM8: same; TH: Erigeron canadense) HORSEWEED

Pratt calls this a common weed. Hosmer and Eaton say it is very common. Specimen in Thoreau herbarium without date or locality. There are about nine references to this in Thoreau's *Journal*. Cherrie Corey reported (2014) this to be very common. Eaton collected this on August 1, 1957 in a cleft in a ledge at Martha's Point (BEDF specimen). Voucher specimen in BEDF collected by Eaton on August 15, 1930 in a grassy hollow of his woodlot near Goose Pond. Image not available.

Erigeron pulchellus var. pulchellus (GM8: same; TH: Erigeron bellidifolium) ROBIN'S-PLANTAIIN

Pratt says this is rather common. Hosmer and Eaton call this common. Specimen in Thoreau herbarium without date or locality. There are just six references to this in Thoreau's *Journal*. Jarvis notes this on June 9, 1835 at the [Cambridge] Turnpike. Eaton collected this on August 15, 1930 in a dry, grassy hollow on his woodlot near Goose Pond (BEDF specimen). In 2021 Cherrie Corey reported that this had decreased to become only occasional. Voucher specimen in NEBC collected by Horace Mann, Jr. on June 8, 1862 with no locale in Concord given. Link to image.

Erigeron strigosus var. strigosus (GM8: same; TH: Erigeron strigosum (in part), Erigeron integrifolium)

## LESSER DAISY FLEABANE

Pratt and Hosmer say this is common. Eaton says it is very common, often weedy. Specimen in Thoreau herbarium without date or locality. There are about 16 references to this in Thoreau's *Journal* some of which might be the uncommon var. septentrionalis not distinguished in Thoreau's time. Voucher specimen in NEBC collected by Edward Hoar on August 22, 1857 along the road to Bedford. <u>Link to image</u>.

Erigeron strigosus var. septentrionalis (GM8: same; TH: not scientifically described until 1913) Pratt and Hosmer do not list this as they would not have distinguished it from the typical variety. Eaton says it is uncommon. No specimen in Thoreau herbarium. References to the typical variety in his *Journal* would include this variety. Voucher specimen in NEBC collected by Horace Mann, Jr. in 1862 (later identified as this variety) with no locale in Concord given. Link to image.

Eupatorium perfoliatum (GM8: same; TH: same) BONESET

Pratt says this is abundant. Hosmer and Eaton call it common. Specimen in Thoreau herbarium without date or locality. There are only three references to this in Thoreau's *Journal*. Eaton collected this on September 15, 1928 at the pond shore of Goose Pond by his woodlot (BEDF specimen), and on September 5, 1957 in moist, peaty sand on the south shore of Walden Pond (NEBC specimen). Cherrie Corey found great quantities of this in 2014 near a mowed path along the back of the commons field just south of Heath's Bridge Road. Voucher specimen in NEBC collected by Edward Hoar on September 8, 1857 near Oak Meadow [now Mink Pond in the Estabrook Woods] in wet land. Link to image.

Eupatorium pilosum (GM8: same; TH: Eupatorium teucrifolium)

Pratt and Hosmer do not list this. Eaton says it is uncommon. No specimen in Thoreau herbarium or reference to this in his *Journal*. Emile F. Williams collected this on August 29, 1908 in a boggy pasture (GH specimen). Eaton collected this on September 15, 1928 in the Ministerial Swamp (BEDF specimen). Voucher specimen in NEBC collected by Horace Mann, Jr. in 1862 with no locale within Concord given. Link to image.

Eupatorium rotundifolium var. ovatum (GM8: Eupatorium pubescens; TH: Eupatorium pubescens)

#### ROUND-LEAVED THOROUGHWORT

Pratt says this is rare, found on the borders of White Pond. Hosmer merely refers to it as occurring at White Pond and Mine Hill. Eaton says it is rare. Specimen in Thoreau herbarium without date or locality. There are about six references to this in Thoreau's *Journal*. On July 21, 1852 on he refers to it on his way to or at the Corner Spring. On August 19, 1852 he mentions it, apparently again on his way to or at the Corner Spring. On July 24, 1853 he mentions it at Hubbard's burnt meadow and notes also that there is much of it near Hubbard's grove (these locations being on the way to the Corner Spring). On July 23, 1854 he records it on his way to Walden via the Hubbard Grove. On August 5, 1856 he notes it at Pear Path on his way to or at the house-leek via the Assabet River. On September 9, 1857 he finds it apparently in low sproutland north of the Sam Wheeler orchard on his way to Fair Haven Hill. Charles Jarvis with C.C. Field collected this on July 30, 1825 in low ground west of Benjamin Hosmer's (MASS specimen). Edward Jarvis notes this as Eupatorium ovatum on July 30, 1834 in "low ground West C. Hosmer." Voucher specimen in NEBC collected by Emile F. Williams on August 29, 1908 with no locale within Concord given. Link to image.

## EUPATORIUM SEROTINUM (GM8: same; TH: same)

Pratt and Hosmer do not list this. Eaton says it is rare. No specimen in Thoreau herbarium or reference to this in his *Journal*. Voucher specimen in NEBC (and in BEDF) collected by Eaton on September 9, 1934 in a dry, fallow field at Clamshell Bluff (see *Rhodora* 38:65). Link to image.

Eupatorium sessilifolium (GM8: same, including var. brittonianum; TH: same) UPLAND BONESET

Pratt says this is rather rare, noting it at Fairhaven Cliffs, Conantum and the Sugar Maple Grove. Hosmer simply notes it at Conantum. Eaton inadvertently omits it from his published Flora, but treats it fully in unpublished notes, calling it rare, noting it near Lee's Bridge under a cliff and at Martha's Point. Specimen in Thoreau herbarium without date or locality. There are about five references to this in Thoreau's Journal. On August 31, 1852 he notes it not fully in flower at Lee's Cliff. On August 12, 1853 he reports it in flower for a day or two on the side-hill grove at Bittern Cliff [Martha's Point]. Emile F. Williams collected this on August 9, 1908 at "Conantum rocky hillside" (GH specimen). Eaton collected this on September 9, 1957 at the edge of a thicket at the foot of a cliffy ledge near Lee's Bridge (BEDF specimen). Voucher specimen in NEBC collected by Eaton on September 13, 1957 in rocky woods at Martha's Point, a thriving colony. Link to image.

Eurybia divaricata (GM8: Aster divaricatus; TH: Aster corymbosus) WHITE WOOD ASTER

Pratt, Hosmer and Eaton say this is common. Specimens in Thoreau herbarium dated August 9, 1856 above Hemlocks [at Assabet River], Corner Spring path (undated), and one undated with no locality. There are about 16 references to this in his *Journal*. On August 9, 1856 he refers to the [Leaning] Hemlocks in his *Journal*. His *Journal* entry of August 11, 1852 refers

to this in the path beyond Corner Spring and in Miles Swamp on his way to Conantum that day. Eaton collected this on September 15, 1928 open oak woods on his woodlot at Goose Pond (BEDF specimen), and on September 25, 1965 on a wooded bank by a wood road along the [Concord] River near William Brewster's old camp (NEBC) specimen). Voucher specimen in NEBC collected by Edward Hoar on August 25, 1857 on the side of Lee's Hill [Nashawtuc Hill] near North Branch [Assabet River]. Link to image.

Eurybia macrophylla (GM8: Aster macrophyllus, including var. ianthus & var. sejunctus; TH: Aster macrophyllus)

Pratt merely gives the habitat. Hosmer says it is common. Eaton calls it uncommon. Four specimens in Thoreau herbarium, two of them outside of Concord, two undated and without locality. There are about 19 references to this in Thoreau's *Journal*. Eaton collected this on July 26, 1958 in low woods at the foot of Fair Haven Hill near Boiling Spring (BEDF specimen), and on September 18, 1957 on the wooded north slope of the ridge southeast of G. Root's Pond [Crosby Pond] (NEBC specimen). Voucher specimen in NEBC collected by Eaton on July 26, 1958 in low cool woods on bank near old railroad track northwest of Nashawtuc Hill. Link to image.

Eurybia radula (GM8: Aster radula; TH: Aster radula)

Pratt and Hosmer say this is common. Eaton says it is rare. Multiple specimens in Thoreau herbarium without date or locality and one with a question mark by Thoreau collected on August 15, 1854 in Concord. There are about 20 references to this in Thoreau's *Journal*. Eaton collected this on August 17, 1932 in a peaty meadow at the Concord Country Club (BEDF specimen). Voucher specimen in NEBC collected by Edward Hoar on August 30 or September 1, 1858 with no locale within Concord given. Link to image.

Euthamia graminifolia (GM8: Solidago graminifolia, including var. nuttallii; TH: Solidago lanceolata)

## COMMON FLAT-TOPPED GOLDENROD

Pratt, Hosmer and Eaton say this is common. Specimen in Thoreau herbarium without date or locality. There are about 12 references to this in Thoreau's *Journal*. Edward Hoar collected this on September 5, 1879 in a woodland path from near Sandy Pond water works toward Tuttle's (NEBC specimen). Eaton collected this on September 15, 1928 on a gravelly shore of Goose Pond (specimen location unknown). Laurence Richardson collected this on October 7, 1963 in a waste field west of Spencer Brook and north of Barrett's Mill road (BEDF specimen). Voucher specimen in NEBC collected by Edward Hoar on September 18 (no year) at roadside near Nine Acre Corner Bridge [Hubbard's Bridge]. Link to image.

Eutrochium dubium (GM8: Eupatorium dubium; TH: Eupatorium purpureum (in part)) EASTERN JOE-PYE-WEED

Pratt says this is common. Hosmer and Eaton call it very common. Reference to "Eupatorium purpureum" by Thoreau, Pratt or Hosmer could refer also to Eutrochium fistulosum, Eutrochium maculatum, or Eutrochium purpureum, of which the first is rare in Concord, and the other two might occur in Concord. Specimen in Thoreau herbarium without date or locality and another specimen not from Concord. There are about 16 references to "Eupatorium purpureum" in Thoreau's *Journal*, all or almost all of which are likely to be Eutrochium dubium. K. Shea and E. Blair collected this (as Eupatorium maculatum) on August 16, 1977 in thickets surrounding a deep marsh at the Great Meadows National Wildlife Refuge (MASS specimen). Cherrie Corey found great quantities of this in 2014 near a mowed path along the back of the commons field just south of Heath's Bridge Road. Voucher specimen in NEBC (and in BEDF) collected by Eaton on August 29, 1938 in low ground along railroad track east of the filter beds. Link to image.

Eutrochium fistulosum (GM8: Eupatorium fistulosum; TH: Eupatorium fistulosum, Eupatorium purpureum (in part))

TRUMPETWEED

Pratt and Hosmer do not list this, but would have included it under Eupatorium purpureum. Eaton says this is rare. No specimen in Thoreau herbarium. Thoreau's sole *Journal* reference to this on August 24, 1854 suggests that he considered it to be equivalent to Eupatorium purpureum (which is more likely the common Eutrochium dubium). Voucher specimen in NEBC collected by Edward Hoar with no date at "Conantum, foot of cliff near Spring" which Eaton interprets to be Martha's Point (Thoreau's Bittern Cliff). Link to image.

Eutrochium maculatum var. maculatum (GM8: Eupatorium maculatum var. maculatum; TH: Eupatorium purpureum (in part))

Pratt and Hosmer do not list this, but would have included it under Eupatorium purpureum. Eaton does not list this. Specimen in Thoreau herbarium labeled "whorled at top" identified by Walter Kittredge as Eupatorium maculatum can be associated with his Journal entry of August 6, 1856 finding it "whorled at top" at Stow's Pool. Another specimen identified as this by Walter Kittredge in Thoreau's herbarium is without date or locality. Voucher specimen in GH is Thoreau's collection of it. to Link image.

GALINSOGA PARVIFLORA var. PARVIFLORA (GM8: same; TH: same) GALLANT SOLDIER

Pratt, Hosmer and Eaton do not list this. No specimen in Thoreau herbarium or reference to this in Thoreau's *Journal*. Voucher specimen in NEBC (and in BEDF) collected by this author in flower on July 21, 1982 along a sandy railroad bed behind a residence northeast of the town filter beds adjacent to Great Meadows. Link to image.

GALINSOGA QUADRIRADIATA (GM8: Galinsoga ciliata; TH: not treated in the manuals used by Thoreau, would have been included in Galinsoga parviflora) SHAGGY SOLDIER

Pratt and Hosmer do not list this. Eaton says it is frequent, becoming common and weedy. No specimen in Thoreau herbarium or reference to this in his *Journal*. Voucher specimen in BEDF collected by Eaton on September 17, 1961 as a roadside weed next to a cultivated field at Nine Acre Corner. Image not available.

Gnaphalium uliainosum (GM8: same: TH: same)

LOW CUDWEED

Pratt, Hosmer and Eaton say this is common. Specimen in Thoreau herbarium without date or locality. There are about seven references to this in Thoreau's Journal. Specimen in NEBC collected by Edward Hoar on August 24, 1857 on the road to Wayland [current Route 126] is very unlikely in Concord. Eaton collected this on June 29, 1958 in low ground along a cart-track in a cultivated field at Barrett's Mill Road (BEDF specimen). Voucher in GH collected by Emile F. Williams on August 9, 1908 along a roadside. Link to image.

GRINDELIA SQUARROSA (GM8: same; TH: same)

Pratt and Hosmer do not list this. Eaton says it is uncommon. No specimen in Thoreau herbarium or references to this in his *Journal*. Voucher specimen in NEBC (and in BEDF) collected by Eaton on August 6, 1934 in sandy field at Clamshell Bluff where abundant (see Rhodora 38:65). Link to image.

HELENIUM AUTUMNALE (GM8: same; TH: same)

**COMMON SNEEZEWEED** 

Pratt says he introduced this from Illinois. Hosmer does not list it, and a list of Pratt introductions that he prepared for Rhodora in 1899 indicates that he had not seen it in recent years. Eaton says it is rare and notes that it occurred abundantly in Wheeler's Meadow near Nashawtuc Bridge about 50 years ago [ca. 1924]. No specimen in Thoreau herbarium or reference to this in his *Journal*. Voucher specimen in NEBC collected by Eaton on September 9, 1934 in dry field at Clamshell Bluff. Link to image.

HELENIUM FLEXUOSUM (GM8: Helenium nudiflorum; TH: Leptopoda brachypoda) PURPLEHEAD SNEEZEWEED

Pratt and Hosmer do not list this. Eaton says it is occasional, a species that has been spreading northward into New England. No specimen in Thoreau herbarium or reference to this in his *Journal*. Eaton collected this on August 14, 1920 in a sphagnous, peaty meadow along the 7<sup>th</sup> and 8<sup>th</sup> holes of the Concord Country Club, and on August 20, 1920 in wet meadow [Wheeler's Meadow] east of Nashawtuc Hill where abundant (both BEDF specimens), and has noted that it occurred (1957) in a dry, overgrown pasture northeast of Bateman's Pond. Laurence E. Richardson collected this on July 25, 1960 at Bateman's Pond (BEDF specimen). Voucher specimen in VT collected by Laurence E. Richardson on July 29, 1967 on a bank of the Assabet River near Cameron's, Link to image.

HELIANTHUS ANNUUS (GM8: same; TH: same)

## **COMMON SUNFLOWER**

Pratt and Hosmer do not list this. Eaton says it is infrequent. Specimen in Thoreau herbarium without date or locality. There are 3 references to this in Thoreau's *Journal*, but none of these are specifically to occurrence in the wild. Voucher specimen in NEBC (and in BEDF) collected by Eaton on August 21, 1957 in a dry, fallow field on G.[eorge F.] Root's Farm [Intervale Farm on Sandy Pond Road]. Link to image.

Helianthus decapetalus (GM8: same + Helianthus trachelifolius; TH: same + Helianthus trachelifolius)

Pratt simply says this is on the southern slope of Punkatasset [Hill]. Hosmer only says it is near Jos. A. Smith's. Eaton says it is rare. Specimen in Thoreau herbarium collected on August 12, 1856 at Moore's Swamp identified by unknown person as Helianthus strumosus but by this author as Helianthus decapetalus. Helianthus decapetalus and strumosus sometimes intergrade so that they are not always distinct. Thoreau's *Journal* entry for August 12, 1856 notes it describes the plant without deciding on its identity. The *Journal* references specifically to this in Concord are August 29, 1856 (but see Helianthus strumosus below), on August 13 and 29, 1858 at the Assabet site, and on August 30, 1859 in a list. Voucher specimen in GH of is Thoreau's specimen collected on August 12, 1856. Link to image.

Helianthus divaricatus (GM8: same: TH: same)

#### WOODLAND SUNFLOWER

Pratt says this is not uncommon. Hosmer calls it common. Eaton says it is uncommon. Specimen in Thoreau herbarium without date or locality. There are about 24 references to this in Thoreau's *Journal*. Eaton collected this on August 6, 1938 in a low, rich copse along a cart path to Pratt's old nursery, and on August 14, 1957 in dry soil at the edge of a roadside thicket west of White Pond (both BEDF specimens). Laurence E. Richardson collected this on August 5, 1964 along the railroad near the Refuge [Great Meadows] (BEDF specimen). Voucher specimen in NEBC collected by Edward Hoar on August 9, 1858 in a dry woodland path in an opening. Link to image.

HELIANTHUS PAUCIFLORUS subsp. PAUCIFLORUS (GM8: Helianthus laetiflorus var. rigidus; TH: Helianthus rigidus)

Pratt and Hosmer do not list this. Eaton says it is rare. Please note that Helianthus laetiflorus (typical) listed by Eaton is currently regarded as a hybrid, and, thus, not included in this flora. No specimen in Thoreau herbarium or reference to this in his *Journal*. Eaton collected this on September 15, 1957 in a large patch in an old field west of the Club House of the Concord Country Club (BEDF specimen). Voucher specimen (filed as Helianthus x

laetiflorus) in NEBC (and in BEDF) collected by Eaton on August 13, 1934 one large patch in sandy field at Clamshell Bluff. Link to image.

Helianthus strumosus (GM8: same; TH: same)

Pratt simply notes this at the foot of Punkatasset [Hill] near the [Concord] river. Hosmer lists this without comment. Eaton says it is uncommon. Specimens in Thoreau's herbarium were collected on August 11, 1856 along the Corner [now Sudbury] Road and on August 29, 1856 at the Assabet River with a question by him in his identification as a variety of Helianthus decapetalus, but identified by this author as Helianthus strumosus. Thoreau's *Journal* entry for August 29, 1856 places it on the Hosmer bank opposite Azalea Swamp. The only references to this specifically in Thoreau's *Journal* for occurrence in Concord are on August 12, 1856 (see Helianthus decapetalus) and on August 21, 1857 where he notes finding something like this species at the south end of Stow's cold pool. Voucher specimen in NEBC collected by F.S. Collins on September 11, 1886 at Punkatasset [Hill]. Link to image.

HELIANTHUS TUBEROSUS (GM8: same; TH: same)

## JERUSALEM ARTICHOKE

Pratt says this is frequently found in waste places. Hosmer lists this without comment. Eaton says it is uncommon. Specimen in Thoreau herbarium without date or locality. There are about six references to this in Thoreau's *Journal*. He notes it on September 23, 1854 at Moore's Swamp, on September 24, 1856 below Moore's Swamp (asking if it is found elsewhere in town), and on October 4, 1856 in flower in Reynold's yard [the butcher's]. Eaton collected this on September 21, 1957 on filled land on the [Concord] River bank below Flint's Bridge (BEDF specimen). This author saw a good patch of this in the late 1970s or early 1980s in a sandy waste spot right at the small dam crossing of the Second Division Brook south of Kennedy's Pond (Hayward's Mill Pond). Voucher specimen in NEBC collected by Eaton on October 4, 1958 in moist, rich ground on waste ground (scattered colonies) on the Brigham Farm at Nine Acre Corner. Link to image.

HIERACIUM AURANTIACUM (GM8: same; TH: not treated in the manuals used by Thoreau) DEVIL'S PAINTBRUSH

Pratt does not list this. Hosmer notes it at "Sand pit." and at the [Cambridge] Turnpike. Eaton says it is common. No specimen in Thoreau herbarium or reference to this in his *Journal*. Laurence E. Richardson collected this on June 22, 1958 in a grassy field by Strawberry Hill Road (NEBC specimen). Voucher specimen in NEBC collected by H.W. Hunnewell on June 17, 1913 on a gravelly shore of Lake Walden [Walden Pond]. Link to image.

HIERACIUM CAESPITOSUM (GM8: Hieracium pratense; TH: not treated in the manuals used by Thoreau)

## YELLOW FOX-AND-CUBS

Pratt and Hosmer do not list this. Eaton says it is common, rapidly increasing in recent years (1974). No specimen in Thoreau herbarium or reference to this in his *Journal*. Voucher specimen in NEBC collected by Eaton on June 20, 1958 in dry, gravelly railroad ballast near Monument Street. Link to image.

HIERACIUM FLAGELLARE (GM8: same; TH: not treated in the manuals used by Thoreau) Pratt and Hosmer do not list this. Eaton says it is common, becoming an obnoxious, rapidly spreading weed in recent years. No specimen in Thoreau herbarium or reference to this in his *Journal*. Voucher specimen in NEBC collected by Eaton on June 10, 1958 on the slope of a sandy, sterile field east of Second Division Brook near the Sudbury line, a single colony. Link to image.

## HIERACIUM LACHENALII (GM8: Hieracium vulgatum; TH: Hieracium vulgatum)

Pratt and Hosmer do not list this. Eaton says it is infrequent. No specimen in Thoreau herbarium or reference to this in Thoreau's *Journal*. Voucher specimen in NEBC collected by Eaton on July 26, 1958 in dry open woods along a roadside on the north side of Nashawtuc Hill, about six plants seen. Link to image.

Hieracium paniculatum (GM8: same; TH: same)

## ALLEGHENY HAWKWEED

Pratt and Hosmer say this is common. Eaton calls it frequent. Two specimens in Thoreau herbarium without date or locality. There are about 12 references to this in Thoreau's *Journal*. Eaton collected this on September 5, 1957 southeast of Fair Haven Hill (BEDF specimen). Voucher specimen in NEBC collected by Eaton on August 24, 1957 in dry oak woods northeast of Goose Pond. Link to image.

HIERACIUM PILOSELLA (GM8: same; TH: not treated in the manuals used by Thoreau) MOUSE-EAR HAWKWEED

Pratt and Hosmer do not list this. Eaton says this is scarce but rapidly spreading (1974). No specimen in Thoreau herbarium. Voucher specimen in NEBC collected by Eaton on June 16, 1962 at a dry roadside at the intersection of Route 2 and Sudbury Road -- a large clone. Link to image.

HIERACIUM PILOSELLOIDES (GM8: Hieracium florentinum; TH: not treated in the manuals used by Thoreau)

## **GLAUCOUS KING DEVIL**

Pratt and Hosmer do not list this. Eaton says it is common. No specimen in Thoreau herbarium. Voucher specimen in NEBC collected by Eaton on June 10, 1958 in waste ground near the Concord Dump at Walden Street. Link to image.

Hieracium scabrum (GM8: same: TH: same)

## STICKY HAWKWEED

Pratt, Hosmer and Eaton say this is common. Specimen in Thoreau herbarium without date or locality. There are about 17 references to this in Thoreau's *Journal*. Eaton collected this on September 9, 1934 in a dry field at Clamshell Bluff (BEDF specimen). Voucher specimen in NEBC collected by Eaton on August 17, 1938 in dry, sandy soil on a railroad bank east of the filter beds, specimen originally identified as Hieracium marianum by Eaton but later annotated to be Hieracium scabrum by H. Ahles. Link to image.

Hieracium umbellatum (Hieracium canadense, including var. fasciculatum; TH: Hieracium canadense, Hieracium kalmii)

## NORTHERN HAWKWEED

Pratt and Hosmer say this is common. Eaton says it is frequent. Specimen in Thoreau herbarium without date or locality. There are about 12 references to this in Thoreau's *Journal*. Jarvis notes this on August 25, 1834 near Corner Bridge. Voucher specimen in NEBC collected Edward Hoar on August 30, 1858 with no locale within Concord given. <u>Link</u> to image.

Hieracium venosum (GM8: same, including var. nudicaule; TH: same)
RATTLESNAKE-WEED

Pratt, Hosmer, Jarvis and Eaton say this is common. Three specimens (one questioned) in Thoreau herbarium without date or locality. There are about 20 references to this in Thoreau's *Journal*. Voucher specimen in NEBC collected by Edward Hoar on July 6, 1858 with no locale within Concord given. Link to image.

## INULA HELENIUM (GM8: same: TH: same)

#### **ELECAMPANE**

Pratt says this occurs in the rocky pasture near the Lime-kiln [in Estabrook Woods], probably escaped from cultivation. Hosmer notes it simply at Lowell Road. Eaton says it is rare. Specimen in Thoreau herbarium without date or locality. There are about 10 references to this in Thoreau's *Journal*. He refers to this on September 6, 1851 at J.H. Wheeler's, on August 6, 1853 in flower along the roadside just beyond Garfield's, and on August 16, 1856 in a moist, rocky meadow pasture near a brook near Lexington Road. Other *Journal* references are not specific as to locality or refer to a locality not in Concord. Voucher specimen in NEBC collected by Edward Hoar on August 22, 1885 along the roadside north of Hildreth's on road to Bateman's Pond [likely the Lowell Road station of Hosmer]. No image available.

Ionactis linariifolia (GM8: Aster linariifolius; TH: Aster linariifolius, Diplopappus linariifolius) STIFF ASTER

Pratt, Hosmer and Eaton say this is common. Specimen in Thoreau herbarium without date or locality. There are about 36 references to this in Thoreau's *Journal*. Eaton collected this on September 22, 1929 in dry, open ground near White Pond (BEDF specimen). On October 8, 2015 Cherrie Corey found about five plants of this in perfect bloom at the southwest corner of Walden Pond on a shoulder of woodland close to the railroad tracks. In 2021 she reported that this had decreased to become infrequent. Voucher specimen in NEBC collected by Eaton on September 15, 1928 in open, sandy scrub-oak woods on his woodlot near Goose Pond. Link to image.

Krigia virginica (GM8: same; TH: same)

Pratt, Hosmer and Eaton say this is common. Specimen in Thoreau herbarium without date or locality. There are about 13 references to this in Thoreau's *Journal*. Cherrie Corey photographed this in blossom on June 16, 2017 plentiful at Hosmer's grave site in Sleepy Hollow Cemetery. Voucher specimen in NEBC collected by Eaton on June 24, 1929 in open, dry, sandy oak woods on the north side of Goose Pond. <u>Link to image</u>.

Lactuca biennis (GM8: same; TH: Mulgedium leucophaeum)

#### TALL BLUE LETTUCE

Pratt says this is rare in Concord but abounds in neighboring Bedford. Hosmer lists this (as Lactuca leucophaea) without comment. Eaton says this is common. Specimen in Thoreau herbarium without date or locality. There are about nine references to this in Thoreau's *Journal*. He refers to this on August 27, 1852 by the railroad on his way to or at Walden Pond, on August 24, 1853 again by the railroad, and on August 12, 1856 at Moore's Swamp where abundant. Other *Journal* references are not specific as to locale. Voucher specimen in NEBC collected by Edward Hoar on September 6, 1858 in low ground. Link to image.

Lactuca canadensis (GM8: same, including var. latifolia & var. longifolia; TH: Lactuca elongata, excluding var. sanguinea)

#### WILD LETTUCE

Pratt merely lists its habitats. Hosmer and Eaton say this is common. Specimen in Thoreau herbarium without date or locality. There are four references to this in Thoreau's *Journal*, but none with specific locale. Eaton collected this on October 7, 1958 in a weedy field along Lexington Road near corner with Heywood Street (NEBC specimen). Voucher specimen in NEBC (and in BEDF) collected by Eaton on July 26, 1958 in dry gravel of railroad ballast along abandoned railroad on the north side of Nashawtuc Hill. Link to image.

Lactuca hirsuta (GM8: Lactuca hirsuta var. sanguinea; TH: Lactuca sanguinea, Lactuca elongata var. sanguinea)

Pratt does not list this. Hosmer lists it without comment. Eaton lists it in an appendix as unlikely to occur in Concord. Specimen in Thoreau herbarium without date or locality. There are four references to this in Thoreau's *Journal*, all while he was in Concord but none with specific locale. Thoreau's specimen in GH is accepted here as the voucher. <u>Link to image</u>. LACTUCA SERRIOLA (GM8: Lactuca scariola; TH: not treated in the manuals used by

LACTUCA SERRIOLA (GM8: Lactuca scariola; TH: not treated in the manuals used by Thoreau)

PRICKLY LETTUCE

Pratt and Hosmer do not list this. Eaton says this is frequent. No specimen in Thoreau herbarium or reference to this in Thoreau's *Journal*. Eaton collected this on September 5, 1957 in peaty sand on the shore of Walden Pond near the railroad (BEDF specimen). Voucher specimen in NEBC collected by Eaton on August 9, 1957 along a dry roadside. <u>Link to image</u>.

LEUCANTHEMUM VULGARE (GM8: Chrysanthemum leucanthemum, including var. pinnatifidum; TH: same)

**OXEYE DAISY** 

Pratt simply calls this a pernicious weed in fields and meadows. Hosmer says it is very common. Eaton calls it abundant. Specimen in Thoreau herbarium without date or locality. There are about 29 references to this in Thoreau's *Journal* all under the common name. Jarvis notes this on June 8, 1835 in Merrick's Pasture [which included today's Old Calf Pasture]. Voucher specimen in NEBC collected by Eaton on June 29, 1958 along a roadside. <u>Link to image</u>.

Liatris scariosa var. novae-angliae (GM8: Liatris borealis -- misapplied; TH: Liatris scariosa) Pratt notes this as occurring in dry fields near Punkatasset [Hill] and in fields near the Peter Hutchinson place. Hosmer notes this at the Lowell Railroad and the railroad track in back of the [Sleepy Hollow] cemetery. Eaton says it is rare, still present in the vicinity of "Caesar's Well" where Thoreau saw it. Specimen in Thoreau herbarium without date or locality. There are about 15 references to this in Thoreau's Journal. He refers to it on September 9, 1852 by Caesar's Well, on July 29, 1853 at apparently the same location, on August 9, 1853 at the same location referred to as Peter's well, on August 20, 1853 apparently at the same location where he finds it in prime of flowering, August 7, 1854 at the same location, on August 1, 1856 at the same location soon to flower, on August 26, 1858 at the same location about in prime of flowering, on September 28, 1858 apparently at the same location done flowering, on September 6, 1859 probably at the same location a little past prime of flowering, and on December 23, 1859 either at the same location (probably) or possibly at Ball's Hill with bare or empty heads. Jarvis notes this on August 30, 1836 near Caesar's. Mr. Cummings collected this on August 29, 1879 behind Ball's Bluff landing (NEBC specimen). This author collected this [specimen missing] in flower on August 31, 1979 at the filter beds which would be the Peter's Path/Peter's well/Caesar's well area of Thoreau and Eaton, the Peter Hutchinson place of Pratt, and the railroad track behind the Sleepy Hollow Cemetery of Hosmer. This author saw but one flower in blossom here on September 3, 1980 along the railroad bed between the filter beds and Great Meadows (closer to the Great Meadows entrance). Voucher specimen in NEBC (and in BEDF) collected by Eaton on August 17, 1938 along the railroad track near Great Meadows east of the filter beds where plentiful. Link to image.

MATRICARIA DISCOIDEA (GM8: Matricaria matricarioides - misapplied; TH: same)

Pratt and Hosmer do not list this. Eaton says it is frequent, but infrequent when he collected it in 1957. No specimen in Thoreau herbarium or reference to this in his *Journal*. Voucher specimen in NEBC collected by Eaton on July 17, 1957 at roadside at G.[eorge F.] Root's Farm [Intervale Farm on Sandy Pond Road]. Link to image.

Mikania scandens (GM8: same; TH: same)

CLIMBING HEMPWEED

Pratt merely notes its habitat. Hosmer says it is common. Eaton calls it frequent. Specimen in Thoreau herbarium without date or locality. There are about 47 references to it in Thoreau's *Journal*. Laurence E. Richardson collected this on August 7, 1966 on a riverbank of the Sudbury River climbing on Cephalanthus (BEDF specimen). In 2021 Cherrie Corey reported that this was common along riverbanks. Voucher specimen in NEBC collected by Eaton on August 20, 1923 on left bank of the Sudbury River 300 yards south of Heath's Bridge growing on Cephalanthus where it was abundant. Link to image.

Nabalus albus (GM8: Prenanthes alba; TH: same, Prenanthes alba)

WHITE LETTUCE

Pratt and Hosmer say this is common. Eaton calls it frequent. Two specimens in Thoreau herbarium without locality, one dated 1857. Another specimen is not from Concord. There are about 12 references to this in Thoreau's *Journal*. Voucher specimen in NEBC collected by Eaton on August 23, 1957 along wood road north of Punkatasset Hill. Link to image.

Nabalus altissimus (GM8: Prenanthes altissima; TH: same)

Pratt simply notes it along borders of old Saw-Mill brook, north of Punkatasset Hill. Hosmer does not list it. Eaton says it is uncommon. Specimen in Thoreau herbarium dated 1857 from Botrychium Swamp [same as or part of Thoreau's Yellow Birch Swamp in Estabrook Woods; see this author's *Thoreau Place Names*]. The only reference to this at Botrychium Swamp in Thoreau's *Journal* is on September 1, 1858 where he notes finding twenty plants in shade in there, with only one flowering. Voucher specimen in NEBC collected by Edward Hoar on September 1, 1858 (the same date as Thoreau's *Journal* entry almost certainly with Thoreau in Botrychium Swamp) in moist woods. Link to image.

Nabalus serpentarius (GM8: Prenanthes serpentaria; TH: Nabalus fraseri, Nabalus albus var. serpentaria)

#### CANKERWEED

Pratt simply notes that this occurs in woods south of Bateman's Pond. Hosmer says this is common. Eaton calls this uncommon. Middlesex County is near the northern limit of its range. Two specimens in Thoreau herbarium, both simply dated 1857 with no locality. There are about five references to this in Thoreau's *Journal*. He refers to it on September 13, 1857 at the top of the [Fairhaven] Cliffs, on September 23, 1857 along the Walden road in the woods, on August 27, 1858 also along Walden road, and on September 1, 1858 in flower but locale not specified. Eaton collected this on August 23, 1957 in a dry thicket at the edge of College Road (BEDF specimen). Voucher specimen in NEBC collected by Edward Hoar in September 1857 at the [Fairhaven] Cliffs [probably on September 13, 1857 with Thoreau]. Link to image.

Nabalus trifoliolatus (GM8: Prenanthes trifoliolata; TH: not distinguished in the manuals used by Thoreau, considered to be included in Nabalus albus)

Pratt and Hosmer do not list this. Eaton says it is common. Two specimens in Thoreau herbarium without date or locality identified by Walter Kittredge in 2017. Voucher specimen

in NEBC collected by Eaton on August 6, 1929 in dry, open, oak woods on his wood lot near Goose Pond. Link to image.

Oclemena acuminata (GM8: Aster acuminatus; TH: Aster acuminatus)
MOUNTAIN ASTER

Pratt says this is common in the north part of town. Hosmer says it is common. Eaton says it is common, often abundant. Specimen in Thoreau without date or locality, in addition to one from Brattleboro. There are about 18 references to this in Thoreau's *Journal*. Voucher specimen in NEBC collected by Eaton on October 9, 1921 in dry oak woods northeast of Goose Pond. Link to image.

Packera aurea (GM8: Senecio aureus, including var. intercursus; TH: Senecio aureus) GOLDEN RAGWORT

Pratt says this is common. Hosmer says it is very common. Eaton calls it frequent. Specimen in Thoreau herbarium with no date or locality. There are about 33 references to this in Thoreau's *Journal*, although there is a very small chance that one or more of these might refer to one of several other very closely related species recorded in Middlesex County but not in Concord. On May 27, 2014 Cherrie Corey and her students saw this in flower at Well Meadow Head. Voucher specimen in NEBC collected by Edward Hoar on June 17, 1858 with no locale within Concord given. Link to image.

Pseudognaphalium macounii (GM8: Gnaphalium macounii; TH: Gnaphalium decurrens)
Pratt says this is rare, occasionally single plants met with, but that he never found afterwards in the same neighborhood. Hosmer does not list this. Eaton lists this in an appendix as unlikely in Concord. Specimen in Thoreau herbarium without date collected from Heywood Peak. There are about three references to this in Thoreau's *Journal*. On July 31, 1853 he notes this at Heywood Peak. Thoreau's specimen In GH is accepted as the voucher for this. Link to image. (specimen in upper left as Gnaphalium decurrens)

Pseudognaphalium obtusifolium (GM8: Gnaphalium obtusifolium var. obtusifolium; TH: Gnaphalium polycephalum)

## SWEET EVERLASTING

Pratt says this is abundant. Hosmer and Eaton say this is common. Specimen in Thoreau herbarium without date or locality. There are about 29 references to this in Thoreau's *Journal*, mostly under common names for which the related Pseudognaphalium macounii cannot be ruled out. Eaton collected this on in grassy, open woods at his woodlot at Goose Pond (BEDF specimen). Voucher specimen in NEBC collected by M.L. Fernald on October 12, 1916 in a dry clearing. Link to image.

RUDBECKIA HIRTA var. PULCHERRIMA (GM8: Rudbeckia serotina; TH: Rudbeckia hirta (in part))

### **BLACK-EYED SUSAN**

Pratt says it is a weed becoming common in grass land and that it is supposed to have come from the west with grass seed. Hosmer says it is very common. Eaton calls it abundant and weedy. Specimen in Thoreau herbarium without date or locality. Thoreau's *Journal* refers to it as a new plant on July 3, 1854 in Arethusa Meadow and many seen the day before in meadows beyond the almshouse, noting that it was probably introduced lately from West. His *Journal* refers to it also on June 23, 1857 at Hubbard's Bath and on three other occasions in Concord without specific locale. Eaton collected this on October 9, 1921 in a gravel pit at Nashoba Park (NEBC specimen). Voucher specimen in NEBC collected by Edward Hoar on July 21, 1858 at roadside. Link to image.

Rudbeckia laciniata var. laciniata (GM8: same; TH: same)

Pratt says this is rare, found on the borders of a brook in back of Cyrus Clark's, and occasionally a scattering plant in that neighborhood. Hosmer lists this without comment. Eaton says it is apparently rare, known from a single location where scarce. Specimen in Thoreau herbarium without date or locality. There are about five references to this in Thoreau's journal. He refers to it on August 18, 1852 behind Joe Clark's, on July 30, 1856 in flower already for about a week probably at the same location, on September 4, 1857 with a question mark by Dodge's Brook north of the road, and on September 21, 1857 without a question mark probably at the Dodge's Brook location. Jarvis collected this on July 27, 1834 in back of F. Jarvis's (MASS specimen). This author saw it in flower on August 14, 1982 at the edge of a pasture near Pratt's Spring, and also at roadside at 1213 Monument Street in 1982. Voucher specimen in NEBC collected by Eaton on August 16, 1957 in rich, low ground at the edge of a sunny thicket on the north side of Barnes Hill Road. Link to image.

SCORZONEROIDES AUTUMNALIS (GM8: Leontodon autumnalis; TH: Leontodon autumnale, Aparaia autumnalis)

#### **FALL DANDELION**

Pratt says this is abundant in moist fields. Hosmer calls it very common. Eaton says it is common, a ubiquitous weed. Specimen in Thoreau herbarium without date or locality. There are about 45 references to this in Thoreau's *Journal*. Eaton collected this on August 15, 1930 in a grassy hollow on his wood lot at Goose Pond (BEDF specimen). Voucher specimen in NEBC collected by Edward Hoar on August 22, 1857 along the road to Bedford. Link to image.

Sericocarpus asteroides (GM8: same; TH: Sericocarpus conyzoides) TOOTHED WHITE-TOP ASTER

Pratt and Hosmer say this is common. Eaton calls it frequent. Specimens correctly identified in Thoreau herbarium with no date or locality mounted with one misidentified specimen. There are only about six references specifically to this in Thoreau's *Journal*. Since another specimen in Thoreau's herbarium labeled by him as this species has been identified by Eaton as Sericocarpus linifolius, any of his references might be to that species. Voucher specimen in NEBC collected by Edward Hoar on July 21, 1858 along a roadside. Link to image.

Sericocarpus linifolius (GM8: same; TH: Sericocarpus solidagineus)

Pratt does not list this. Hosmer calls it common. Eaton says it is infrequent and scarce. Specimen in Thoreau herbarium without date or locality identified by him as Sericocarpus asteroides but identified by Eaton in 1972 as Sericocarpus linifolius. There are no specific references to this in Thoreau's *Journal*. Eaton collected this on August 17, 1938 in dry, sandy soil along railroad tracks east of the filter beds (NEBC and BEDF specimens). Voucher specimen in NEBC collected by Charles W. Jenks on July 24, 1890 in Walden Woods. <u>Link to image</u>.

Solidago altissima subsp. altissima (GM8: same; TH: Solidago canadensis var. scabra) Pratt and Hosmer do not distinguish this from Solidago canadensis. Eaton says this is uncommon. No specimen in Thoreau herbarium from Concord. Two specimens in Thoreau's herbarium labeled "Solidago altissima" would actually be Solidago rugosa var. rugosa since in the manuals used by Thoreau the name "Solidago altissima" was misapplied to what is Solidago rugosa. Similarly, references to "Solidago altissima" in Thoreau's *Journal* are to the common Solidago rugosa var. rugosa. There do not appear to be any unambiguous references in his *Journal* to the actual Solidago altissima. Voucher specimen in NEBC collected by Eaton on August 24, 1930 in a boggy field at the Concord Country Club. Link to image.

Solidago arguta var. arguta (GM8: same; TH: same, Solidago muhlenbergii)
Pratt and Hosmer do not list this. Eaton says it is apparently rare. No specimen in Thoreau herbarium from Concord. Only reference to this in Thoreau's *Journal* is not in Concord. Voucher specimen in NEBC collected by Eaton on August 23, 1957 on a dry bank along College Road. Link to image.

Solidago bicolor (GM8: same; TH: same) SILVERROD

Pratt, Hosmer and Eaton say this is common. Two specimens in Thoreau herbarium without date or locality, including one that is labeled by him as Solidago bicolor var. concolor which is either a form or hybrid of this species which can be associated with his *Journal* entry for September 21, 1856 at Fair Haven Cliff. There are about 22 references to this in Thoreau's *Journal*. Eaton collected this on September 17, 1930 in dry oak woods burned the previous spring near Goose Pond (BEDF specimen). Laurence E. Richardson collected this on September 16, 1961 along Hugh Carghill Road (BEDF specimen). Mary Walker collected this on September 14, 1977 in woods on the property of Hugo Logemann, Jr. in the Conantum area (BEDF Specimen). Voucher specimen in NEBC collected by Edward Hoar on August 24, 1857 along the road to Wayland [current Route 126]. Link to image.

Solidago caesia var. caesia (GM8: same; TH: same)

**BLUE-STEM GOLDENROD** 

Pratt, Hosmer and Eaton say this is common. Specimens in Thoreau herbarium without date or locality. There are about 30 references to this in Thoreau's *Journal*. Voucher specimen in NEBC collected by Eaton on October 6, 1929 in dry oak woods on his wood lot at Goose Pond. Link to image.

Solidago canadensis var. canadensis (GM8: same; TH: same, not including var. scabra) Pratt and Hosmer say this is common. Eaton calls it abundant. Specimen in Thoreau herbarium collected on August 23, 1856 by the railroad at Walden Pond (discussed in unpublished passage of Thoreau's *Journal* on August 22, 1856). There are perhaps about eight references to this in Thoreau's *Journal*. Eaton collected this On July 18, 1934 in a dry, fallow field at Clamshell Bluff (BEDF specimen). Voucher specimen in NEBC collected by Edward Hoar in September 1858 in open, sandy woods. Link to image.

Solidago flexicaulis (GM8: same; TH: Solidago latifolia)

ZIG-ZAG GOLDENROD

Pratt says this is rare, in groves on the south side of Punkatasset Hill. Hosmer lists this without comment. Eaton says it is rare, not seen in recent years (1974). Two specimens in Thoreau herbarium without dates or localities. There are about 12 references to this in Thoreau's journal. He refers to this on August 24, 1852 at Saw Mill Brook, on August 24, 1853 apparently at the same location not yet in flower, on September 2, 1853 apparently at the same location with a few flowers open, on September 1, 1856 at the same location in the company of Ralph W. Emerson with flowering not quite yet, on September 24, 1856 apparently at the same location with flowering in prime, on October 8, 1856 apparently at the same location with flowering far gone, on October 18, 1856 apparently at the same location with flowering all gone on account of frost, on September 16, 1857 at Botrychium Swamp [same as or part of Thoreau's Yellow Birch Swamp in Estabrook Woods; see this author's *Thoreau Place Names*] with flowering in prime, and another reference not in Concord. Voucher specimen in NEBC collected by Edward Hoar on September 1, 1858 in a damp wood. Link to image.

Solidago gigantea (GM8: same, including var. leiophylla; TH: same, Solidago serotina) Pratt simply notes this as in moist thickets in the north part of the town. Hosmer lists this without comment. Eaton says it is common. Specimens in Thoreau herbarium collected on August 22, 1856 by an apple tree under [Fairhaven] Hill (referenced in unpublished passage from his *Journal* entry for this date), and on August 23, 1856 by the railroad ("15 rods down RR on right" according to unpublished passage from his *Journal* entry for August 22, 1856). There are about 13 references to this in Thoreau's *Journal*. Laurence E. Richardson collected this on August 3, 1960 at the Barrett's Mill Road and Strawberry Hill Road (BEDF specimen). Voucher specimen in NEBC collected by Eaton on September 10, 1932 in peaty meadow at the Concord Country Club. Link to image.

Solidago juncea (GM8: same; TH: Solidago arguta var. juncea) EARLY GOLDENROD

Pratt simply notes this in a grove on the southerly side of Punkatasset Hill. Hosmer says it is common. Eaton calls it very common. Specimen in Thoreau herbarium without date or locality referenced by him as Solidago arguta var. juncea. There are about 20 references to this in Thoreau's *Journal*. Eaton collected this on August 15, 1930 at the margin of woods near Goose Pond on his wood lot (BEDF specimen). Voucher specimen in NEBC collected on August 22, 1857 by Edward Hoar in a field near the [Sleepy Hollow] Cemetery along the road to Bedford. Link to image.

Solidago nemoralis subsp. nemoralis (GM8: same; TH: same) GRAY GOLDENROD

Pratt says this is in dry fields everywhere. Hosmer and Eaton say it is common. Specimen in Thoreau herbarium without date or locality. There are about 48 references to this in Thoreau's *Journal*. Voucher specimen in NEBC collected by Edward Hoar on August 24, 1857 on the east shore of Walden Pond. Link to image.

Solidago odora subsp. odora (GM8: same; TH: same) SWEET GOLDENROD

Pratt says this is rare, at Punkatasset Hill and sparsely scattered in other parts of the town. Hosmer says it is not common. Eaton calls it uncommon, noting it in just two areas below Flint's Bridge -- in the vicinity of the filter beds and across the Concord River near Ball's Hill. Specimen in Thoreau herbarium without date or locality. There are about 18 references to this in Thoreau's Journal. He refers to it on August 7, 1853 in flower by the path to the foot of Fairhaven cliffs beyond Hayden's maybe 20 or 30 rods into woods about the summit level, on July 22, 1854 in flower a day or two at a locale not specified, on August 14, 1856 abundantly in flower at a locale not specified, and on September 1, 1856 in company with Ralph W. Emerson at a locale not specified, the latter two references very possibly in Lincoln, MA. Eaton collected this on September 22, 1929 on a sandy-gravelly shore of White Pond (BEDF specimen). Voucher specimen in NEBC collected by Eaton on September 15, 1954 on a dry bank along the railroad near the filter beds near Great Meadows, where common. Link to image.

Solidago puberula subsp. puberula (GM8: same; TH: same)

Pratt says this is common. Hosmer lists this without comment. Eaton says this is common, sometimes abundant on recent burns. Specimens in Thoreau herbarium without locality or date, except one or two dated August 28, 1856. There are about 19 references to this in Thoreau's *Journal*. Emile F. Williams collected this on September 27, 1896 along the Lowell Railroad track (NEBC specimen). Eaton collected this on September 15, 1928 in waste ground near Ministerial Swamp (University of New Hampshire specimen), on September 17, 1930 in dry oak woods near Goose Pond (BEDF specimen), and on September 9, 1932 in

moist woods near Spencer Brook below Saw Mill Pond dam (NEBC specimen). Voucher specimen in NEBC collected by Edward Hoar in September 1858 in sandy soil at the edge of Lincoln woods. Link to image.

Solidago rugosa var. rugosa (GM8: same; TH: Solidago altissima misapplied)
Pratt says this is common everywhere. Hosmer says it is common. Eaton calls it abundant.
Two specimens in Thoreau herbarium without date or locality labeled by him as "Solidago altissima" have been identified by Walter Kittredge as this species. There are about 32 references to this in Thoreau's *Journal*. References in his *Journal* would include subsp. aspera not distinguished in the manuals he used. E.S. Burgess collected this on September 8, 1889 along Thoreau Street (New York Botanical Garden specimen). Eaton collected this on September 15, 1928 along a sandy wood road on his wood lot near Goose Pond (BEDF specimen). Voucher specimen in NEBC collected by Edward Hoar on August 30, 1858 with no locale within Concord given. Link to image.

Solidago rugosa subsp. aspera (GM8: same; TH: not distinguished in the manuals used by Thoreau from the typical variety)

Pratt and Hosmer do not distinguish this from the typical variety. Eaton says this is frequent. No specimen in Thoreau herbarium or reference to this in his *Journal*. E.S. Burgess collected this on September 6, 1889 along Thoreau Street (New York Botanical Garden specimen). Voucher specimen in NEBC collected by Eaton on August 23, 1957 in open, deciduous woods at the southeastern base of Annursnack Hill. Link to image.

SOLIDAGO SEMPERVIRENS subsp. SEMPERVIRENS (GM8: same; TH: same, Solidago laevigata)

#### SEASIDE GOLDENROD

Pratt, Hosmer and Eaton do not list this. Specimen in Thoreau herbarium without date or locality would be associated with occurrence along the Atlantic coast, as are all his approximately six *Journal* references to this. This author found it on October 1, 1979 along the railroad next to Belknap Street parking area. Voucher specimen in BEDF collected by Mary M. Walker and this author on October 2, 1979 at this author's location. Image not available.

Solidago speciosa var. speciosa (GM8: same; TH: same, Solidago rigida misapplied by Thoreau and Pratt)

Pratt lists this (as Solidago rigida) as rare, found only in a small grove on the southeast side of Punkatasset Hill. Hosmer lists this (including var. angustata) without comment. Eaton says this is rare, found at a single station, now destroyed, at Clamshell Bluff. Two specimens in Thoreau herbarium are without date or locality and one labeled incorrectly according to Eaton as Solidago rigida collected at Clamshell Hill in 1857. There are about 13 references to this in Thoreau's Journal. He refers to this on September 4, 1853 as probably this species in Hubbard's Swamp Path not yet in flower, on September 29, 1853 in flower for about ten days in Hubbard's Swamp, on September 15, 1854 at Clamshell Hill in flower several days, on September 27, 1856 at Clamshell Hill not quite in flower, on October 2, 1856 at Hubbard's Swamp completely flowering, on September 11, 1857 under the name Solidago rigida by the black oaks at the sand-hole east of Clamshell Hill in prime or a little past prime flowering, and on September 26, 1857 under the name Solidago rigida within a rod southwest of the oak near Clamshell Hill just done flowering. Eaton collected this on September 9, 1934 at Clamshell Bluff at the sunny edge of a thicket near the oak tree (where Thoreau also found it to the east of the Clamshell bank), and where obliterated about 1950 (BEDF specimen). Voucher specimen in GH is Thoreau's collection in 1857 at Clamshell Hill. Link to image.

Solidago uliginosa (GM8: same, including var. linoides; TH: Solidago neglecta, Solidago stricta misapplied)

#### **BOG GOLDENROD**

Pratt simply notes that this occurs in swamps in the north part of the town, and under the name Solidago stricta in peat bogs. Hosmer says this (as Solidago neglecta and Solidago uliginosa) is common. Eaton calls this infrequent. A specimen in Thoreau herbarium was not identified by Thoreau but identified by Eaton as this species, collected in [Aster] Radula Swamp on August 10, 1856. Also three specimens identified by Thoreau as Solidago stricta collected at Cardinal Ditch and at Egg Rock, both without dates, and another at Cardinal Ditch dated September 14, 1856 have been identified by Walter Kittredge as Solidago uliginosa. The only reference to this in Thoreau's published *Journal* is on September 1, 1853 with a question mark for a Solidago found by Marlborough road. In addition about 30 *Iournal* references to Solidago stricta are likely to this species. Thoreau's published *Iournal* entry for the date of collection of his specimen of the Radula Swamp specimen does not mention it. However, in an unpublished passage from his Journal for August 10, 1856 he refers to his specimen: "In the [Aster] radula swamp some days a very smooth upright Solidago -- with small somewhat appressed entire thickish leaves above (Perhaps what I have called [Solidago] puberula though as before no {mealiness} or down!) some in Moore's Swamp -- v[ide] Aug 12 '56 The lowest like S. stricta-- Panicle {drawing} v[ide] press." An unpublished passage of his *Journal* refers to the occurrence at Egg Rock (Island) on July 30. 1856. Eaton collected this on August 17, 1932 in a peaty meadow at the Concord Country Club (NEBC specimen). Laurence E. Richardson collected this on August 24, 1960 in the bog [Heywood's Meadow] south of Walden Pond, and on August 27, 1960 in a swamp southeast of Radio Towers [off Strawberry Hill Road] (both BEDF specimens). Voucher specimen in NEBC collected by Edward Hoar on September 8, 1857 in Oak Meadow [now Mink Pond in the Estabrook Woods]. Link to image.

Solidago ulmifolia var. ulmifolia (GM8: same; TH: same)

Pratt and Hosmer do not list this. Eaton says it is rare. Specimen in Thoreau herbarium unidentified by him without date on a sheet labeled "Concord -- what?" Eaton has identified this as Solidago ulmifolia. There are about four references to this in Thoreau's *Journal*. The first two *Journal* references relate to a possible occurrence. In his last reference on September 11, 1853 he doubts whether he has seen this species at all, so that the locale within Concord of the specimen in his herbarium identified by Eaton is unknown. Voucher in GH is Thoreau's specimen. Link to image.

SONCHUS ARVENSIS subsp. ARVENSIS (GM8: same; TH: same) CORN SOW-THISTLE

Pratt says this is rare, found occasionally in the neighborhood of Punkatasset Hill. Hosmer lists it without comment. Eaton says it is infrequent. No specimen in Thoreau herbarium or reference to this in his *Journal*. Emile F. Williams collected this on August 31, 1908 at the Wheeler place (GH specimen). Voucher specimen in NEBC collected by Eaton on July 25, 1957 in low, open woods on the shoulder of a cart-road at the north end of Bateman's Pond. Link to image.

SONCHUS ASPER (GM8: same; TH: same) PRICKLY SOW-THISTLE

Pratt says this is rare, a few specimens found on land of William H. Hunt near the [Concord] River. Hosmer simply notes this at the Elm Street Bridge. Eaton says this is common. No specimen in Thoreau herbarium or reference to this in his *Journal*. Voucher specimen in NEBC collected by Edward Hoar on August 28, 1888 at the foot of his garden. Link to image.

Symphyotrichum cordifolium (GM8: Aster cordifolius; TH: Aster cordifolius) COMMON BLUE WOOD ASTER

Pratt says this is abundant. Hosmer lists this without comment. Eaton says it is frequent, noting its unaccountable, comparative scarcity relative to its generally abundant occurrence elsewhere in Middlesex County. Four specimens in Thoreau herbarium, three outside Concord and one without date or locality. There are about 15 references to this in Thoreau's *Journal*. Eaton collected this (originally identified as Aster x amethystinum but annotated to Symphyotrichum cordifolium in 2001 by A. Haines) on October 8, 1958 along a grassy roadside of Estabrook Road at the entrance to the Estabrook Woods (BEDF specimen), and on October 5, 1957 at a roadside on Lowell Road near Mill Brook. Voucher specimen in NEBC collected by Eaton on September 21, 1957 at roadside near Hildreth's Corner. Link to image.

Symphyotrichum dumosum (GM8: Aster dumosus; TH: Aster dumosus)
RICE-BUTTON ASTER

Pratt merely mentions its habitat. Hosmer lists this without comment. Eaton says it is common. Specimen in Thoreau herbarium without date or locality. There are about 26 references to this in Thoreau's *Journal* with perhaps the first eight references being actually to Symphyotrichum racemosum (see his *Journal* entry for August 30, 1853). Eaton collected this on August 28, 1921 in dry scrub on his wood lot (BEDF specimen). Voucher specimen in NEBC collected by Edward Hoar on August 22, 1857 along the road to Bedford. <u>Link to image</u>.

Symphyotrichum ericoides var. ericoides (GM8: Aster ericoides; TH: Aster ericoides, Aster multiflorus)

#### WHITE HEATH ASTER

Pratt simply lists the habitat. Hosmer oddly does not list this. Eaton says it is common. Specimen in Thoreau herbarium without date or locality. There are about nine references to this in Thoreau's *Journal*. E.S. Burgess collected this on September 7, 1889 at Nine Acre Corner (New York Botanical Garden specimen). Mary Walker collected this on September 10, 1979 in a shrubby meadow of an old orchard near Hutchins Pond (BEDF specimen). Voucher specimen in NEBC (and in BEDF) collected by Eaton on September 16, 1931 on the dry, gravelly field of the old Cattle Show fairgrounds. Link to image.

Symphyotrichum laeve var. laeve (GM8: Aster laevis; TH: Aster laevis)
SMOOH ASTER

Pratt and Hosmer say this is common. Eaton calls it uncommon. Four specimens (two on one sheet) in Thoreau herbarium without date or locality. There are about 18 references to this in Thoreau's *Journal*. Eaton collected this on September 9, 1934 in a fallow field at Clamshell Bluff (BEDF specimen), on September 13, 1955 on a railroad bank near the Filter Beds (BEDF specimen), on September 26, 1931 at roadside on Main Street near the Assabet River bridge (NEBC specimen), and on September 20, 1961 in grassland of the brook meadow by the Millbrook at Heywood Street (BEDF specimen). Voucher specimen in NEBC collected by Edward Hoar in September 1857 in the field between the [Fairhaven] Cliffs and Cyrus Hubbards. Link to image.

Symphyotrichum lanceolatum var. lanceolatum (GM8: Aster simplex, including var. ramosissimus; TH: Aster simplex, Aster longifolius (in part))
PANICLED ASTER

Pratt would have included this under the name "Aster longifolius" (which includes the more common Symphyotrichum novi-belgii var. novi-belgii) and only notes the habitat. Hosmer lists this (as Aster paniculatus) without comment. Eaton says this is common. Of five specimens in Thoreau herbarium identified as Symphyotrichum lanceolatum by Walter

Kittredge in 2017 only two were collected in Concord, both at Mill Brook associated with unpublished *Journal* passages. One was collected on September 22, 1856 labeled by Thoreau as Aster longifolius with a question mark, and the other on September 24, 1856 along what is now Hawthorne Lane near Mill Brook labeled by Thoreau as Aster longifolius or Aster carneus. There is one reference in Thoreau's *Journal* specifically to Aster simplex. Some of his approximately two dozen references to Aster longifolius are likely to this species, as well as some or all of his few references to Aster carneus, Aster salicifolius and Aster tenuifolius. E. Faxon collected this on October 3, 1890 at roadside near Punkatasset Hill (NEBC specimen). Eaton collected this on September 16, 1931 in a wet meadow (French's Meadow) along the Sudbury River NEBC and BEDF specimens), on October 14, 1961 in damp ground of a brook meadow of Mill Brook at Heywood Street (NEBC specimen). Voucher specimen in NEBC collected by Edward Hoar in September 1858 in shady moist ground near the Nine Acre Corner bridge [Hubbard's Bridge]. Link to image.

Symphyotrichum lateriflorum (GM8: Aster lateriflorus, including var. pendulus; TH: Aster miser)

#### **CALICO ASTER**

Pratt and Eaton say this is common. Hosmer lists this (as Aster diffusus) without comment. Of the seven specimens of this in Thoreau's herbarium two specimens are without date or locality and only two of the other specimens are from Concord. One of these is dated September 25, 1856 collected near Wood's bridge [Main Street bridge across Sudbury River] and matches an unpublished passage of Thoreau's Journal for this same date: "I must regard it [a particular Aster with miser-like flowers] as the A[ster] miser old var. divergens of Pursh & Willd[enow]. It has the purple disk. v[ide] press [i.e., herbarium] S[outh] of Wood's bridge causeway on meadow edge." The other also matches an unpublished passage for this same date that places it at Clamshell Hill. There are about 20 references to this in Thoreau's Journal. Voucher specimen in GH is Thoreau's collection. Link to image. (specimens on each side of sheet)

Symphyotrichum novae-angliae (GM8: Aster novae-angliae; TH: Aster novae-angliae) NEW ENGLAND ASTER

Pratt says it is abundant in the Nine-Acre Corner district, in the neighborhood of the Sugar Maple grove, but rare in other parts of the town. Hosmer notes this at Conantum, near the Paul Dudley Place and at the dump. Eaton says it is common, rapidly increasing in abundance. A specimen in Thoreau herbarium from Concord labeled by him only as "My A.[ster] longifolius" has been identified as Symphyotrichum novae-angliae by Walter Kittredge. This specimen is associated with an unpublished *Journal* passage of September 24, 1856 where he describes it as being in a ditch along the short road presently known as Hawthorne Lane. None of the 3 references to this in Thoreau's published *Journal* are to occurrence in Concord. In his *Journal* reference of September 16, 1859 Thoreau notes finding it in Acton by the roadside not far from the railroad with the comment "I must call it a plant of this vicinity, then." Eaton speculates that it might not be native to Concord. Gray (1856) notes it as common, and Bigelow (1814) cites it as occurring at various places in the immediate Boston vicinity. Eaton collected this on September 15, 1957 in an old field at the Concord Country Club (NEBC specimen), and on September 1956 in a meadow by a brook off Virginia Road (north side) behind the former farm of Caleb Wheeler (BEDF specimen). Voucher specimen in NEBC collected by Eaton on September 20, 1934 in a sandy field at Clamshell Bluff where well-established over a large area. Link to image.

Symphyotrichum novi-belgii var. novi-belgii (GM8: Aster novi-belgii; TH: Aster novi-belgii, Aster longifolius (in part))

#### **NEW YORK ASTER**

Pratt would have included this under the name "Aster longifolius," which includes the less common Symphyotrichum lanceolatum var. lanceolatum, and only notes the habitat. Hosmer lists this without comment. Eaton says this is very common. Four specimens in Thoreau's herbarium collected on September 25, 1856, two of them labeled Aster longifolius have been identified by Walter Kittredge as Symphyotrichum novi-belgii. A lengthy unpublished passage in his Journal discusses Aster longifolius on this date when he was looking at asters on his way to Harrington Road. Two other specimens are either outside Concord or without date or locale. Most of the approximately 24 references to Aster longifolius in Thoreau's *Journal* are likely to this species. Eaton collected this on September 17, 1930 at the shore of Goose Pond on his wood lot (BEDF specimen), on October 10, 1958 in dry loam at Clamshell Bluff at roadsides and adjacent fields (BEDF specimen), and on October 6, 1961 in damp ground of a brook meadow along Mill Brook at Heywood Street (NEBC specimen). Laurence E. Richardson collected this on September 11, 1969 in a field near Warner's Pond (VT specimen). Mary Walker collected this on September 15, 1980 at a bog pond near the Old Rifle Range [likely the same Harrington pond hole where Thoreau collected his specimen], and on September 13, 1981 in a grassy, damp area under shrubs at trail edge near a brook in the Annursnack Hill Land Conservation Area (both BEDF specimens). Voucher specimen in NEBC collected by Edward Hoar on September 3, 1857 in Oak Meadow [now Mink Pond in the Estabrook Woods]. Link to image.

Symphyotrichum patens var. patens (GM8: Aster patens; TH: Aster patens, Aster amplexicaulis)

#### LATE PURPLE ASTER

Pratt and Hosmer say this is common. Jarvis notes this as common in 1834. Eaton calls it frequent. Two specimens in Thoreau herbarium without date or locality. There are about 24 references to this in Thoreau's *Journal*. Eaton collected this on August 28, 1921 in dry scrub on his wood lot near Goose Pond (BEDF specimen). Voucher specimen in GH collected by Emile F. Williams on October 8, 1893 at Fairhaven Bay. Link to image.

Symphyotrichum pilosum var. pilosum (GM8: Aster pilosus; TH: Aster ericoides var. villosus) FROST ASTER

Pratt and Hosmer do not list this. Eaton says this uncommon, possibly rare. No specimen in Thoreau's herbarium or reference to this in his *Journal*. Eaton collected this on October 4, 1959 at the edge of a cart track at the entrance to a dump on Laws Brook Road, on September 17, 1961 at roadside edge of a fallow field at G. Root's farm [Intervale Farm] on Sandy Pond Road, and on October 31, 1968 in low ground of a moist field west of Walden Street near junction with Thoreau Street where abundant (all NEBC specimens). Eaton also collected this on September 23, 1961 in moist gravel along the Middle Dyke at Great Meadows (BEDF specimen). Voucher specimen in NEBC collected by Eaton on October 10, 1958 at roadside and adjacent borders of fields at Clamshell Bluff where abundant. Link to image.

Symphyotrichum puniceum var. puniceum (GM8: Aster puniceus, including var. firmus; TH: Aster puniceus)

### SWAMP ASTER

Pratt simply notes the habitat for this. Hosmer says it is common. Eaton calls it common, often abundant. Specimen in Thoreau herbarium without date or locality. There are about 34 references to this in Thoreau's *Journal*. Voucher specimen in NEBC collected by Eaton on

October 14, 1961 in damp ground of a brook meadow of Millbrook at Heywood Street. <u>Link to image.</u>

Symphyotrichum racemosum (GM8: Aster vimineus - misapplied, including var. subdumosus; TH: Aster tradescanti - misapplied)

#### SMALL WHIE ASTER

Pratt says this is common. Hosmer lists this (as Aster vimineus, including var. foliosus) without comment. Eaton says it is very common. Two specimens in Thoreau herbarium without date or locality. There are about 31 references to this in Thoreau's *Journal*. Eaton collected this on October 8, 1958 in a moist pasture west of Estabrook Road near Raymond Emerson's residence (NEBC specimen), on September 16, 1931 in a moist filed in French's Meadow, and on August 9, 1961 in low, moist ground of Hudson's Meadow opposite Egg Rock (latter two BEDF specimens). Laurence E. Richardson collected this on September 16, 1968 in open hardwoods at a bank of the Assabet River (VT specimen). Voucher specimen in NEBC collected by Eaton on September 10, 1956 in moist, gravelly soil in a recent, shallow excavation near the south end of the middle dyke at Great Meadows. Link to image.

Symphyotrichum undulatum (GM8: Aster undulatus; TH: Aster undulatus)
Pratt, Hosmer and Eaton say this is common. Specimen in Thoreau herbarium without date or locality. There are about 52 references to this in Thoreau's *Journal*. Eaton collected this on September 17, 1930 in dry oak woods at Goose Pond (BEDF specimen). Voucher specimen in NEBC collected by Edward Hoar in September 1857 in woods near Boiling Spring. Link to image.

# TANACETUM VULGARE (GM8: same; TH: same)

#### **COMMON TANSY**

Pratt simply notes the habitat. Hosmer (including "var. crispum" noting it at the Estabrook Place and Lime Kiln Road) and Eaton say this is common. Specimen in Thoreau herbarium without date or locality. There are about 39 references to this in Thoreau' *Journal*. Voucher specimen in NEBC collected by Eaton on July 16, 1958 in waste ground. Link to image.

TARAXACUM ERYTHROSPERMUM (GM8: same; TH: not distinguished in the manuals used by Thoreau)

#### **RED-SEEDED DANDELION**

Pratt and Hosmer do not list this. Eaton says it is common. No specimen in Thoreau herbarium or reference to this in his *Journal*. Laurence E. Richardson collected this on June 5, 1967 at Annursnack Hill (BEDF specimen). Voucher specimen in NEBC collected by Eaton on April 30, 1922 in a dry pasture at Helsher Farm on Westford Road. <u>Link to image</u>.

# TARAXACUM OFFICINALE (GM8: same; TH: Taraxacum dens-leonis) COMMON DANDELION

Pratt says fields everywhere. Hosmer calls it very common. Pratt and Hosmer likely did not distinguish this from the preceding species. Eaton says it is abundantly ubiquitous. Specimen in Thoreau herbarium not from Concord. There are about 50 references to Taraxacum species in Thoreau's *Journal*. Most of these are probably this species. Voucher specimen in NEBC collected by Edward Hoar on May 12, 1858. Link to image.

TRAGOPOGON DUBIUS (GM8: Tragopogon major; TH: not treated in the manuals used by Thoreau)

#### YELLOW SALSIFY

Pratt, Hosmer and Eaton do not list this. No specimen in Thoreau herbarium or reference to it in his *Journal*. This author found it flowering in Concord on June 1, 1980 in a dry, sandy, waste area by the railroad tracks near Jenny Dugan Desert and a utility box. Voucher specimen in NEBC collected by this author and Mary Walker at this site on June 3, 1980. Link to image.

TRAGOPOGON PRATENSIS (GM8: same; TH: not treated in the manuals used by Thoreau) GOAT's-BEARD

Pratt and Hosmer do not list this. Eaton says this is frequent, locally abundant. No specimen in Thoreau herbarium or reference to this in his *Journal*. This author collected it on June 9, 1983 at the edge of a field along a stone wall by the roadside of Lexington Road near Heywood Street, many plants, well-established (BEDF specimen). Voucher specimen in NEBC collected by Laurence E. Richardson in August 1959 in a field near the mouth of Spencer Brook at the Assabet River. Link to image.

TUSSILAGO FARFARA (GM8: same; TH: same) COLTSFOOT

Pratt says he introduced this from Vermont. Hosmer does not list this. Eaton includes this in an appendix as probable in Concord. Specimen in Thoreau herbarium and *Journal* references are for occurrence in Brattleboro, VT. This author found and collected it (with Dorian Kottler) in seed in rich woods along an old railroad bed on the northeast side of Nashawtuc Hill between the Assabet River and a residence on May 13, 1984 (BEDF specimen). This station is probably not where Pratt introduced it, but was more likely brought in by the railroad where this author saw it also in Cambridge and immediately north of Boston. In April of 2014 Cherrie Corey found this in blossom at two additional locations, both of them near present and former railroad lines. One of her stations is at the northeastern side of Moore's Swamp and the other is at the western end of Walden Pond. In October 2014 she found five additional stations along the northern and western shoreline of Walden Pond. Voucher specimen in NEBC collected by this author and Pat Adakonis on May 28, 1989 at the location where this author first found it. Link to image.

VERNONIA FASCICULATA (GM8: same; TH: same)

WESTERN IRONWEED

Pratt and Hosmer do not list this. Eaton notes only that it is adventive in Concord, apparently only at the site he collected it. No specimen in Thoreau herbarium or reference to this in his *Journal*. Voucher specimen in NEBC collected by Eaton on September 20, 1934 in a sandy field at Clamshell Bluff (see *Rhodora* 38:65). Link to image.

VERNONIA MISSURICA (GM8: same; TH: not treated in the manuals used by Thoreau) Pratt and Hosmer do not list this. Eaton notes only that it is adventive in Concord, apparently only at the site he collected it. No specimen in Thoreau herbarium or reference to this in his *Journal*. Voucher specimen in NEBC collected by Eaton on September 5, 1957 in dry, sandy loam at the fallow edge of a cultivated field at Clamshell Bluff. Link to image.

Vernonia noveboracensis (GM8: same; TH: same)

Pratt says this is a rather rare plant, occurring along the borders of the river -- especially near the bridge on Monument Street. Hosmer calls this common (in Concord vicinity). Eaton says this rare, noting that there was formerly a small colony in the river meadow southwest of Nashawtuc Hill and still abundant where Edward Hoar collected his voucher specimen. Specimen in Thoreau herbarium without date or locality. There are about 13 references to this in Thoreau's *Journal*. He refers to this on July 20, 1852 in bud by a riverside [probably Assabet River], on August 3, 1852 by Flint's Bridge having started flowering on July 31, on August 23, 1852 in flower at the bathing-place along the Assabet River, and on August 22, 1853 along the Assabet River in flower "here and there." Jarvis notes this on August 16 & 31, 1836 near Ripley's bridge [Flint's Bridge]. Eaton collected this on August 20, 1959 in a wet brook meadow at Nashoba Brook near a culvert on the highway to the west (Route 2) 200 meters east of the Acton town line (NEBC specimen). This author saw it in flower on August 13, 1979 in a wet clearing on the edge of woods near the Concord River on the west

side of the trail joining Great Meadows with the Minuteman Park which is in the vicinity of Edward Hoar's collection, and this author collected a specimen here on August 21, 1979 (BEDF specimen). Cherrie Corey found this in 2014 in the upper Spencer Brook valley. Voucher specimen in NEBC collected by Edward Hoar on September 1, 1858 in low ground near Dr. Ripley's Bridge [Flint's Bridge]. Link to image.

**Balsaminaceae** (GM8: same; TH: same)

Impatiens capensis (GM8: same; TH: Impatiens fulva)

SPOTTED TOUCH-ME-NOT

Pratt and Hosmer appear to confuse this species with Impatiens pallida which has not been confirmed wild in Concord and with native range to the west of Concord. Pratt claims Impatiens fulva is not as common in Concord as Impatiens pallida. Hosmer says Impatiens capensis is very common and claims Impatiens pallida to be at Dam Meadow, Spruce Swamp and Punkatasset Hill. Specimens collected by Hosmer of Impatiens pallida lack locale within Concord. Eaton calls Impatiens capensis common, often abundant and weedy. Specimen in Thoreau herbarium without date or locality. There are about 16 references to this in Thoreau's Journal including references to Impatiens pallida. K. Shea and E. Blair collected this (as Impatiens biflora) on August 16, 1977 in thickets surrounding a deep, marsh area at Great Meadows (CONN and MASS specimens). Voucher specimen in NEBC collected by Edward Hoar on August 22, 1857 along the road to Bedford. Link to image.

# Berberidaceae (GM8: same; TH: same)

BERBERIS THUNBERGII (GM8: same; TH: not treated in the manuals used by Thoreau) JAPANESE BARBERRY

Pratt and Hosmer do not list this. Eaton says this is common, often abundantly escaped and naturalized. No specimen in Thoreau herbarium or reference to this in his *Journal*. Eaton collected this on August 7, 1957 in an old pasture in woods northeast of Bateman's Pond where it was naturalized and abundant over a large area (NEBC specimen). Colleen M. Handel collected this on July 19, 1972 along Estabrook Road where it was common (BEDF specimen). This author does not recall this being especially common except in the vicinity of Bateman's Pond where Eaton collected it and not far from the Handel collection area. Voucher specimen in NEBC collected by Eaton on June 22, 1935 at the edge of woods in the Town Forest. Link to image.

BERBERIS VULGARIS (GM8: same; TH: same)

**COMMON BARBERRY** 

Pratt says this is most abundant near the old Estabrook place. Hosmer says it is very common. Eaton calls it common. Specimen in Thoreau herbarium without date or locality. There are about 115 references to this in Thoreau's *Journal*. Eaton collected this on May 8, 1935 in a thicket at the Town Forest (NEBC specimen). Laurence E. Richardson collected this on May 19, 1960 along Barrett's Mill Road (BEDF specimen). Voucher specimen in NEBC collected by Edward Hoar on June 8, 1858 with no locale in Concord given. Link to image.

CAULOPHYLLUM GIGANTEUM (GM8: not distinguished in this manual; TH: not scientifically described until 1918)

Pratt, Hosmer and Eaton do not list this. No specimen in Thoreau herbarium or reference to this in his *Journal*. This is a remnant of an introduction by Pratt (as noted on the voucher specimen label), likely of a mixed collection of Caulophyllum thalictroides and Caulophyllum

giganteum placed in the general vicinity of his home at Punkatasset Hill. Pratt's copy of Gray's *Manual of Botany* notes that he found Caulophyllum thalictriodes at Mt. Wachusett in Massachusetts. When this author saw small colonies of Caulophyllum in the vicinity of Pratt's house this species (at that time named only as a variety) was not distinguished in the standard manuals. Voucher specimen in GH collected by Emile F. Williams in "low grounds" on May 8, 1898 as determined by Henry Loconte and W.H. Blackwell in 1981. <u>Link to image</u>.

# CAULOPHYLLUM THALICTROIDES (GM8: same; TH: same) BLUE COHOSH

Pratt does not list this. It is included without comment in an addendum of three loose pages associated with his manuscript after his death. Pratt's copy of Gray's Manual of Botany notes that he found it at Mt. Wachusett in Massachusetts. Hosmer notes this at "Larch Swamp. Near Punkatasset Hill." Hosmer's list of Pratt introductions published in Rhodora includes this species noting it as only at one station. Eaton calls this rare and notes Hosmer's list in Rhodora. No specimen in Thoreau herbarium or reference to this in his Journal. Jarvis notes this without date in front of N.[athaniel] Barret['s], who lived on the east side of Punkatasset Hill. This author found it (and possibly Caulophyllum giganteum as noted above) on May 13, 1982 at Pratt's Spring and in the vicinity of the Spring in 1983. The best colony was on the Punkatasset hillside close to Monument Street on the west side. This author saw remnants of this colony in 2007. Voucher specimen in NEBC collected by Hosmer with no date or locale within Concord given. Link to image.

# PODOPHYLLUM PELTATUM (GM8: same; TH: same) MAYAPPLE

Pratt does not list this. It is included without comment in an addendum of three loose pages associated with his manuscript after his death. Hosmer does not include this in his list of Pratt introductions, but simply notes it in his own list at the same site as the Caulophyllum thalictroides. Eaton calls it rare, an introduced species. Eaton's unpublished notes record that he found a large colony of it by the roadside on Monument Street at the foot of Punkatasset Hill. No specimen in Thoreau herbarium or reference to it in his *Journal*. Emile F. Williams collected this on May 8, 1898 in low ground, "Introduced by Minot Pratt," likely in the vicinity of the Pratt residence on Monument Street (GH specimen). This author found it at this same locality where Eaton collected it on the east side of the street near Pratt's house in 1983 and at several stations in the vicinity of Pratt's home, some of which were probably destroyed by later landscaping operations to make more horse pastures. Voucher specimen in NEBC collected by Eaton on May 28, 1961 along the roadside of Monument Street at the foot of Punkatasset Hill where well-established. Link to image.

**Betulaceae** (GM8: Corylaceae; TH: Betulaceae + Cupuliferae (in part)) Alnus incana subsp. rugosa (GM8: Alnus rugosa; TH: Alnus incana) SPECKLED ALDER

Pratt, Hosmer and Eaton say this is common. Two specimens in Thoreau's herbarium without date or locality, another from Maine. There are about 20 references in Thoreau's *Journal* specifically to this species, but very many more under the generic common name, the majority of which are probably this species. Eaton collected this on June 7, 1935 in a swamp in the Town Forest (NEBC specimen). Voucher specimen in NEBC collected by Eaton in a thicket by Jenny Dugan Brook on July 20, 1957. <u>Link to image</u>.

Alnus serrulata (GM8: same; TH: same)

SMOOTH ALDER

Pratt says this is common. Hosmer does not list it. Eaton calls it frequent. Two specimens in Thoreau herbarium without date or locality. There are about 20 references to it in Thoreau's *Journal* specifically, and most likely many of the references under the generic name are to this. Colleen M. Handel collected this on June 30, 1972 in a marshy area on the west bank of Mink Pond in the Estabrook Woods (BEDF specimen). Voucher specimen in NEBC collected by Eaton on September 22, 1949 at the border of a river meadow at Great Meadows. <u>Link to image</u>.

Betula alleghaniensis (GM8: Betula lutea; TH: Betula excelsa)

Pratt says this is in moist woods in various quarters of the town, perhaps most common north of Punkatasset Hill and near the Estabrook place. Hosmer simply notes it at Fairyland [current Town Forest]. Eaton says it is uncommon. Two specimens in Thoreau's herbarium without date or locality. There are about 60 references to this in Thoreau's Journal. On January 4, 1853 Thoreau names the swamp north of Punkatasset Hill and west of Hunt Pasture as "Yellow Birch Swamp" and comments that it has more of this tree than any other place in Concord. This swamp is located incorrectly on the Gleason map, USGS topographic maps and a detailed map done by Harvard University (current owner of the property). Thoreau locates this swamp more accurately on a survey map he did for the heirs of Humphrey Hunt in December 1852. Eaton collected this on May 18, 1935 on a cool north bank in the Town Forest (NEBC specimen). In the late 1970s this author found the best stands of this still at the Yellow Birch Swamp in the Estabrook Woods and a swampy area in the Town Forest. The survival of many trees in and around the Yellow Birch Swamp was confirmed in January 2014 by Cherrie Corey and a small group of young explorers. At least one of the trees at Thoreau's Yellow Birch Swamp she measured at 4' 4" in diameter at three feet above the ground before it forked. Note: Thoreau's Yellow Birch Swamp is the same as or includes his Botrychium Swamp (see entry for Botrychium virginianum). Voucher specimen in NEBC collected by Edward Hoar on September 8, 1857 near Oak Meadow [now Monk Pond in the Estabrook Woods]. Link to image.

Betula lenta (GM8: same: TH: same)

**BLACK BIRCH** 

Pratt says this is scattered in woods in the north part of the town. Hosmer calls this common. Eaton says it is common in the southeast section of the town. Two specimens in Thoreau herbarium without date or locality. There are about 80 references to this in Thoreau's *Journal*. This author recalls it in the late 1970s as most common in the Estabrook Woods area and collected it on April 21, 1976 (flowers), July 16, 1976 (fruit & foliage) and on February 25, 1979 in low woods near Hutchins Pond in the Estabrook Woods (BEDF specimens on one sheet). Voucher specimen in NEBC collected by Eaton on July 13, 1935 on a cool, north slope near Walden Street in the Town Forest. Link to image.

BETULA NIGRA (GM8: same; TH: same)

RIVER BIRCH

Pratt notes only a single tree in Sleepy Hollow Cemetery a short distance from the original entrance gate. Hosmer also only notes occurrence at this cemetery. No specimen in Thoreau herbarium and only one reference to this in his *Journal* that is not necessarily for occurrence in Concord. Eaton mentions a small thriving colony naturalized from an introduced specimen in Pritchard's Woods [Moses Prichard lived on Main Street] on a bank of the Sudbury River. This colony of Eaton's voucher specimen near and at the old railroad bed still thrived in the

early 1980s. Large specimens also were by the roadside in front of the Buttrick Mansion at the Minute Man National Historic Park. This author collected this with Mary Walker and Jean Baxter on September 12, 1975 at the riverbank of the Concord River at the Old Calf Pasture a little ways downstream from Eaton's voucher location (BEDF specimen). Voucher specimen in NEBC collected by Eaton on July 20, 1957 from a very large and old tree where presumably introduced with many young trees nearby at the edge of the river [Sudbury River] near old railroad abutments upstream from Egg Rock. Link to image.

Betula papyrifera (GM8: same; TH: Betula papyracea)

#### PAPER BIRCH

Pratt says the following: "Not very abundant here, though found in all quarters of the town. Near the road leading from the Factory Village to the Powder Mills; rocky ledge east side of Bateman's Pond; and the largest I have seen in this part of the country stands [1877] in wood land back of John Cameron's, near Carlisle line." Hosmer says it is not uncommon and refers to it at the Lime Kiln and at Lexington Road. Eaton says it is infrequent throughout, occasionally abundant as in Town Forest. Two specimens in Thoreau herbarium without date or locality and one from Maine. There are about 65 references to this in Thoreau's *Journal*. Eaton collected this on June 24, 1929 on a steep north slope east of his Goose Pond wood lot (BEDF specimen). Voucher specimen in NEBC collected by Eaton on June 7, 1925 on moist banks and dry woods in the Town Forest. Link to image.

BETULA PENDULA (GM8: same; TH: not treated in the manuals used by Thoreau) EUROPEAN WEEPING BIRCH

Pratt and Hosmer do not list this. Eaton lists it only in an appendix as unlikely in Concord. No specimen in Thoreau herbarium. A reference in his *Journal* on June 12, 1857 to "Betula alba" (not in Concord) might refer to this species or another European white birch. Voucher specimen in NEBC collected by this author on April 28, 1979 (flowers) and on August 6, 1979 (fruit) established along Nashawtuc Road where it passes through a Sudbury River meadow. Link to image.

Betula populifolia (GM: same; TH: same, Betula alba var. populifolia) GRAY BIRCH

Pratt says this is common. Hosmer says it is very common. Eaton calls it abundant throughout. Two specimens in Thoreau herbarium without date or locality. There are about 120 references to this in Thoreau's *Journal*. Eaton collected this on June 7, 1935 in dry woods in the Town Forest (NEBC specimen). Voucher specimen in NEBC collected by Edward Hoar on May 17, 1858. <u>Link to image</u>.

Carpinus caroliniana subsp. virginiana (GM8: Carpinus caroliniana var. virginiana; TH: Carpinus americana)

### AMERICAN HORNBEAM

Pratt says this is rare, found near the northeast corner of Fairhaven Bay. Hosmer simply notes it at Punkatasset Hill. Eaton says it is uncommon, being known at three localities (detailed in unpublished notes) -- Pratt's Fair Haven Bay locale, Great Meadows near wood road to middle dam in woods at edge of meadow, and in dry open woods near Martha's Point Road (Conantum). Four specimens in Thoreau herbarium without date or locality, but one of them (with obscure flowers and twig torn rather than cut) match his *Journal* entry for May 23, 1857 from Miles Swamp where he notes pressing one. There are about 30 references to it in his *Journal*. On November 22, 1851 Thoreau lists two trees of this at least 3 inches in diameter at Conantum Swamp. On November 30, 1857 he refers to several specimens of this northwest of Little Goose Pond on the edge of a wood-lot. On November 10, 1858 he mentions it at Fair Haven Pond. Eaton collected this on September 5, 1957 in low ground of

rich woods near Well Meadow Brook flowing into Fairhaven Bay at the northeastern corner [same as Pratt's locale] (NEBC specimen), on October 9, 1966 in maple woods at the edge of a river meadow at the Great Meadows Wildlife Refuge a few meters east of the road to the middle dyke (BEDF specimen), and on June 5, 1970 with Mary McClintock in dry, rocky woods near Martha's Point Road in Conantum (VT specimen). This author collected it with Mary Walker and Jean Baxter on September 12, 1975 in moist woods on the north side of Hutchins Pond in the Estabrook Woods (BEDF specimen). This author saw it in the early 1980s at five locations -- Hutchins Pond (Punkatasset Hill vicinity), Great Meadows, Second Division Brook, Conantum, and Pratt's locale near Fair Haven Bay. On June 25, 2016 Cole Winstanley found a new location for this in a swamp at the northeastern foot of Annursnack Hill. Voucher specimen in NEBC collected by Eaton on October 9, 1966 in low, red-maple woods of river meadow at the Great Meadows Wildlife Refuge. Link to image.

Corylus americana (GM8: same; TH: same)

#### AMERICAN HAZELNUT

Pratt, Hosmer and Eaton say this is common. Two specimens in Thoreau herbarium without date or locality. There are about six references specifically to this in Thoreau's *Journal* with many more certainly included in his use of the generic common name. Laurence E. Richardson collected this on June 14, 1952 along Two Rod Road in the Estabrook Woods (BEDF specimen). This author collected it on March 29, 1981 (flowers) and on July 21, 1982 (fruit & foliage) in low, moist woods along a trail by the Sudbury River north of Martha's Point (BEDF specimen). Voucher specimen in NEBC collected by Eaton on August 18, 1935 in thickets in the Town Forest. Link to image.

Corylus cornuta subsp. cornuta (GM8: same; TH: Corylus rostrata) BEAKED HAZELNUT

Pratt says this is rare, noting it on the north side of Sleepy Hollow Cemetery and near the Sugar Maple grove [Conantum]. Hosmer says it is not common, citing it at Goose Pond and Conantum. Eaton calls it frequent. Three specimens in Thoreau herbarium without date and one flowering twig noted from Conantum, apparently associated with his *Journal* entry of April 18, 1857. There are about 14 references specifically to this in Thoreau's *Journal* with some additional references likely included in his use of the generic common name. On July 9, 1852 he notes it by Clematis Brook. On April 2, 1853 he refers to it by Walden Road. On April 18, 1857 he mentions it at Blackberry Steep at Conantum. Edward Hoar collected this in July 20-25, 1858 on a rocky cliff at Conantum mistaking it for the Ulmus rubra (NEBC specimen). Voucher specimen in NEBC collected by Eaton on July 22, 1935 in a thicket on a gravelly bank near the northeast corner of the pond [Fairyland Pond] in the Town Forest. Link to image.

Ostrya virginiana (GM8: same; TH: Ostrya virginica)
AMERICAN HOP-HORNBEAM

Pratt simply notes this at Egg Rock on the banks of the Assabet River. Hosmer cites it only at Egg Rock and Bateman's Pond. Eaton says it is occasional. Eaton's unpublished notes list sites at Estabrook Road, Martha's Point, east side of Bateman's Pond, "etc." Two specimens in Thoreau herbarium without locality, one with date August 14 (no year). There are about 26 references to this in Thoreau's *Journal*. On May 11, 1854 he records it about to shed pollen at the Island [Egg Rock] and in flower at the same place on May 11, 1860. On October 4, 1856 he names the elevated peninsula by the Concord River just above Flint's Bridge as "Ostrya Island," evidently for the prevalence of this there. Eaton collected this on August 23, 1957 in rich woods at the border of a wood row along Estabrook Road (BEDF specimen). This author saw it just about in flower on April 18, 1977 at Bateman's Pond and

occasionally elsewhere. In September 2015 Cole Winstanley reported finding a good quantity of this in woods west of White Pond near the Sudbury line and west of the railroad tracks. Voucher specimen in NEBC collected by James Lund (no date or locale in Concord given). <u>Link</u> to image.

# **Bignoniaceae** (GM8: same; TH: same)

CAMPSIS RADICANS (GM8: same; TH: Tecoma radicans)

TRUMPET-CREEPER

Pratt and Hosmer do not list this. Eaton says this is rare, escaped in low woods at Martha's Point. No specimen in Thoreau herbarium or reference to this in his *Journal*. Eaton on collected this on September 13, 1957 in low, rocky woods at Martha's Point (NEBC specimen). Voucher specimen in NEBC collected by Eaton on August 1, 1964 in dry, gravelly soil at the edge of a thicket near railroad crossing at Reformatory [state prison] off Commonwealth Avenue along the road to the north end of Warner's Pond. Link to image.

CATALPA SPECIOSA (GM8: same; TH: not scientifically described until 1880) NORTHERN CATALPA

Pratt and Hosmer do not list this. Hosmer's listing of the closely related Catalpa bignonioides as an introduced shade tree is likely this species. Eaton says this is uncommon becoming increasingly frequent. No specimen in Thoreau herbarium or reference to it in his *Journal*. Eaton collected this on August 23, 1953 in low ground at the edge of woods escaped from abandoned runway (BEDF specimen), and on June 21, 1958 on a gravel railroad shoulder near Commonwealth Avenue railroad crossing in West Concord -- numerous young shrubby specimens (NEBC specimen). In 2015 Cole Winstanley reported this to be common in West Concord. Voucher specimen in NEBC collected by Eaton on September 10, 1957 along the roadside at edge of swampy meadow on Barrett's Mill Road south of Annursnack Hill -- several young trees. Link to image.

### **Boraginaceae** (GM8: same; TH: same)

CYNOGLOSSUM OFFICINALE (GM8: same: TH: same)

COMMON HOUND'S-TONGUE

Pratt says this is rare, noting it near the Estabrook place and on the south slope of Punkatasset Hill. Hosmer does not list it. Eaton lists it in an appendix as unlikely in Concord. Specimen (or possibly two) in Thoreau herbarium without date or locality. Thoreau refers to this three times in his *Journal*. On June 15, 1852 he records finding it by the railroad in Concord. On August 16, 1856 he notes it mostly gone to seed at Bull's Path and north roadside below Leppleman's. Later that same day he records it by the roadside opposite and by the side of the tan-yard. Thoreau's herbarium specimen in GH is accepted as the voucher for this in Concord. Link to image.

ECHIUM VULGARE (GM8: same, including var. pustulatum; TH: same) BLUEWEED

Pratt notes that he saw two plants of this in his garden. Hosmer refers to it near the Fitchburg Railroad and Hudson's Pasture. Eaton calls it uncommon. No specimen in Thoreau herbarium or reference to this in his *Journal*. Voucher specimen in NEBC collected by Eaton on July 8, 1934 in a sandy field at Clamshell Bluff. Link to image.

Hackelia virginiana (GM8: same; TH: Myosotis virginiana, Cynoglossum morisoni)
Pratt says this is not common and notes it at the Estabrook place and Punkatasset Hill.
Hosmer does not list it. Eaton says it is rare. Two specimens in Thoreau herbarium without date or locality. Thoreau refers to this only twice in his *Journal*. On July 25, 1853 he mentions finding it in flower and fruiting by the roadside between Sam Barrett's Mill and the next house east, speculating that it he probably saw it the previous year beyond the stone bridge at the Assabet River. On August 6, 1856 he notes it at roadside at a grape-vine just beyond his bean-field in the vicinity of Walden, gone to seed with some of it five feet high. Voucher specimen in MASS collected by Charles Jarvis between 1830-1838 with no specific locale in Concord given. Link to image.

Myosotis laxa (GM8: same; TH: same, Myosotis palustris var. laxa) SMALLER FORGET-ME-NOT

Pratt and Hosmer say this is common. Pratt notes it near the Estabrook place and elsewhere. Hosmer notes it at "French Brook - Dam meadow etc." Eaton says it is infrequent. Specimens in Thoreau herbarium without date or locality. Thoreau refers to this about six times in his *Journal*. On May 27 and June 12, 1852 he finds it at the Depot Field Brook. On May 21, 1856 he refers to it by the Turnpike near Hosmer Spring. Voucher specimen in NEBC collected by Eaton on June 11, 1921 in water of swampy meadow of G.[eorge] F. Root's swamp [now Crosby Pond]. Link to image.

MYOSOTIS SCORPIOIDES (GM8: same; TH: Myosotis palustris) TRUE FORGET-ME-NOT

Pratt does not list this. Hosmer notes it at the spring near A.G. Fuller's and near Dr. [Edward] Emerson's. Eaton calls this frequent. No specimen in Thoreau herbarium or reference to this in his *Journal*. Voucher specimen in NEBC collected by Eaton on July 13, 1958 in springy ground near the Sudbury River bank at the Cattle Show Grounds. <u>Link to image</u>.

Myosotis verna (GM8: same; TH: same, Myosotis stricta) EARLY SCORPION-GRASS

Pratt simply notes this at Conantum and north of Punkatasset Hill. Hosmer says it is common. Eaton calls it uncommon. Specimen in Thoreau herbarium without date or locality. Thoreau refers to it about seven times in his *Journal*. On May 13, 1853 he refers to it just in flower at Columbine Cliff. On May 16, 1854 he notes it at Conantum "in several places." On May 27, 1855 he finds it under "the Cliffs" (apparently Conantum). On May 17, 1856 he notes it above (along the river) Lee's Cliff in flower for several days. On May 13, 1860 he records it again in the vicinity of Lee's Cliff. Voucher specimen in NEBC collected by Eaton on May 30, 1932 on a rocky knoll at Martha's Point. Link to image.

SYMPHYTUM OFFICINALE (GM8: same; TH: same)

**COMMON COMFREY** 

Pratt notes it in an old pasture near the Lime-kiln road [Estabrook Woods]. Hosmer does not list this. Eaton lists this only in an appendix as unlikely to occur in Concord. Specimen in Thoreau herbarium without date or locality. Thoreau refers to this twice in his *Journal*. On August 18, 1852 he refers to it at Dakin, pump-makers. On August 4, 1853 he notes it still in bloom in front of C. Stow's, over the fence. Voucher specimen in MASS by an unknown collector on an unknown date naturalized at an unknown locale in Concord. Link to image.

### **Brassicaceae** (GM8: Cruciferae: TH: Cruciferae)

ALLIARIA PETIOLATA (GM8: Alliaria officinalis; TH: not treated in the manuals used by Thoreau)

#### **GARLIC MUSTARD**

Pratt and Hosmer do not list this. Eaton says it is abundant at a single station. No specimen in Thoreau herbarium or reference to it in his *Journal*. As of the early 1980s this author knew it not only from the large colony that Eaton refers to on Keyes Road near the Star Market of that time, but also from other scattered stations such as Great Meadows in 1981. Since then this species has become very widespread in southern New England and parts of northern New England. Voucher specimen in NEBC collected by Laurence E. Richardson on May 15, 1969 "abundant along shaded roadside (Keyes Rd.) on felled swamp land. Many 100s - 1000s of plants." Link to image.

# ARABIDOPSIS THALIANA (GM8: same; TH: Sisymbrium thalianum) MOUSE-EAR CRESS

Pratt and Hosmer do not list this. Eaton lists this only in an appendix as unlikely in Concord. No specimen in Thoreau herbarium or reference to this in his *Journal*. Voucher specimen in BEDF collected by this author on May 10, 1984 on the north slope of Walden Pond. Image not available.

# ARMORACIA RUSTICANA (GM8: Armoracia lapathifolia; TH: Nasturtium armoracia) HORSERADISH

Pratt does not list this. Hosmer calls it rather common. Eaton says this is occasional. No specimen in Thoreau herbarium. This is referred to about four times in Thoreau's *Journal* but none of these are definitely to wild occurrence in Concord. Voucher specimen in NEBC collected by Horace Mann Jr. in 1862 with no locale within Concord given. Link to image.

BARBAREA VULGARIS (GM8: same, including var. arcuata; TH: same, including var. arcuata)

### **COMMON WINTER-CRESS**

Pratt says this is not common, noting it near the One-arched Bridge [across the Assabet River near the current Rte. 2 rotary]. Hosmer and Eaton call this common. Specimen in Thoreau herbarium without date or locality. There are about nine references to this in Thoreau's *Journal*. Eaton collected this on May 21 (flowers) and July 16, 1961 (fruit) in dry woods in a sunny opening on a knoll south of Deaconess Home (BEDF and MASS specimens). Voucher specimen in NEBC collected by Eaton on June 6, 1961 in a low thicket at the edge of a cultivated field in Nine-Acre-Corner at school house cellar hole along Sudbury Road. Link to image.

# BERTEROA INCANA (GM8: same; TH: not treated in the manuals used by Thoreau) HOARY ALYSSUM

Pratt and Hosmer do not list this. Eaton says it is common, often abundant. No specimen in Thoreau herbarium or reference to this in his *Journal*. Eaton collected this on August 10, 1957 in dry, thin soil in an old hayfield along Sudbury Road where abundant (BEDF specimen). Eaton notes on the voucher specimen finding this on July 25, 1958 abundant in a field on Sudbury Road east of Heath's Bridge. Voucher specimen in NEBC collected by Eaton on July 2, 1936 in a hay-field. Link to image.

# Boechera stricta (GM8: Arabis drummondi; TH: Turritis stricta) DRUMMOND'S ROCK-CRESS

Pratt does not list this. Hosmer lists this (as Arabis confinis) as being at Mine Hill. Eaton says this is rare, formerly frequent in a fallow field at Clamshell Bluff. Specimens in Thoreau herbarium without date or locality, except one of which is noted as from Lee's Cliff and another not from Concord. The Lee's Cliff specimen can be associated with his *Journal* entry

for June 6, 1853 as it is the only one gone to seed. Another undated specimen without locality with long pods can be associated with his *Journal* entry for May 17, 1856 which refers to his pressing a specimen from Lee's Cliff with long pods. There are about 21 references to this in Thoreau's *Journal*. On May 26, 1853 he records finding this high up at the base of the rocks under Lee's Cliff. All references by Thoreau appear to be to the occurrence at Lee's Cliff. Eaton collected this on June 25, 1932 in granitic talus at Conantum Cliff [see Conantum Cliffs in this author's *Thoreau Place Names*] (BEDF specimen). On April 25, 1982 this author found it also common at Lee's Cliff just beginning to flower. Voucher specimen in NEBC collected by M.L. Fernald on June 15, 1913 at "Cliffs in woods" [almost certainly Conantum Cliffs or Lee's Cliff]. Link to image.

Borodinia canadensis (GM8: Arabis canadensis; TH: Arabis canadensis) SICKLEPOD

Pratt says this is rare and notes it as in woods in the south part of town. Hosmer does not list this. Eaton says this is rare, occurring at just two stations (noted below). Specimen in Thoreau herbarium without date or locality. There are only two references to this in Thoreau's *Journal*. On August 10, 1853 he records finding it on Heywood Peak nearly out of bloom, stating that he never saw it before. On July 25, 1854 he notes it again still in flower, probably at the same location on his return from visiting Bare Hill in Lincoln, MA. Eaton reports in unpublished notes finding this on June 25, 1932 on low Cliffs on the west shore of Fairhaven Bay. This author found this at two locations -- near a beech tree at some cliffs south of what this author calls Bemis Cliffs in the northwest part of town (Strawberry Hill Road area) in 1979, and at Martha's Point in 1981. In May 2016 Cole Winstanley reported the Bemis Cliffs station still present. Voucher specimen in NEBC collected by Eaton on July 10, 1958 in dry, rocky woods on diorite outcropping at Martha's Point where abundant. Link to image.

Borodinia laevigata (GM8: Arabis laevigata; TH: Arabis laevigata) SMOOTH ROCK-CRESS

Pratt, Hosmer and Eaton do not list this. No specimen in Thoreau herbarium. The references to this in his *Journal* are most likely to Boechera stricta. The *Flora of Middlesex County, Massachusetts* (Dame & Collins, 1888) says this is uncommon. An image of the sole specimen identified as this has been examined by specialist Ihsan Al-Shehbaz who believes it resembles this species more than the other possibilities, but notes it is not a good representative of the species. Voucher specimen in GH collected by S. Boson on May 25, 1929 on a hillside. Link to image.

BRASSICA NIGRA (GM8: same; TH: Sinapis nigra)

**BLACK MUSTARD** 

Pratt and Hosmer do not list this. Eaton says it is common. No specimen in Thoreau herbarium. The only apparent reference to this in Thoreau's *Journal* is under the common name "mustard" and does not refer to occurrence in Concord. Voucher specimen in BEDF collected by Laurence E. Richardson in circa 1959. Image not available.

CAPSELLA BURSA-PASTORIS (GM8: same; TH: same)

SHEPHERD'S-PURSE

Pratt says this is common. Hosmer calls it very common. Eaton says it is common. Specimen in Thoreau herbarium without date or locality. There are about 35 references to this in Thoreau's *Journal*. Voucher specimen in NEBC collected by Edward Hoar on May 12, 1858. Link to image.

Cardamine bulbosa (GM8: same; TH: Cardamine rhomboidea, Arabis rhomboidea) SPRING CRESS

Pratt does not list this. Hosmer notes it only at Heath's Bridge. Eaton says it is uncommon. Specimen in Thoreau herbarium without date or locality. There are about five references to this in Thoreau's *Journal*. On May 17, 1853 he refers to it by the willow on the Corner causeway. On May 27, 1855 he notes it in a meadow near Bittern Cliff and on May 13, 1860 just above Bittern Cliff, apparently the same location. Voucher specimen in NEBC collected by Hosmer with no date or locale within Concord given. Link to image.

CARDAMINE DIPHYLLA (GM8: Dentaria diphylla; TH: Dentaria diphylla) CRINKLEROOT

Pratt does not list this. Hosmer notes it at Larch Swamp [swamp near residence of Pratt that includes Pratt's Spring]. Eaton does not list this, but in his introduction under "Excluded Species" he refers to an 1898 collection of it by Emile F. Williams in Concord annotated by Williams on the label with "Introduced on Minot Pratt place." (NEBC specimen). Eaton speculates that it was probably in a large wild garden later made into a lawn. But this is incorrect as noted further below. Specimen in Thoreau herbarium from Brattleboro, VT. Only one reference to this in his Journal which is in relation to his Brattleboro trip. This author found it in flower established at Pratt's Spring on the day this author discovered that spring on May 13, 1982 and at other sites nearby. It was laid out in such a way -- lining both sides of a man-made stone channel leading from the spring, that there was little question that it was planted there originally. Since Pratt did not list it or note it in his copy of Gray's Manual of Botany, and it is not included in a list of Pratt introductions prepared by Hosmer, it is most likely that it was placed there by Pratt's oldest son, Frederick, or Frederick's son, Henry, who operated a nursery from the Pratt residence after Minot Pratt's death. The specimen collected by Emile F. Williams referred to by Eaton was no doubt collected from this spot. Voucher specimen in NEBC (and in BEDF) collected by this author and Mary Walker on May 16, 1982 at Pratt's Spring west of Punkatasset Hill. Link to image.

CARDAMINE IMPATIENS (GM8: same; TH: not treated in the manuals used by Thoreau) NARROW-LEAVED BITTER-CRESS

Pratt, Hosmer and Easton do not list this. No specimen in Thoreau herbarium or reference to this in his *Journal*. In 2021 Cherrie Corey reported that this had become abundant and occurred throughout the town. Voucher specimen in NEBC collected by Lisa Standley on June 16, 2020 in the Brewster Woods Sanctuary. Image not available.

Cardamine parviflora (GM8: same, including var. arenicola; TH: not treated in the manuals used by Thoreau, likely would have been included Cardamine pensylvanica)

SAND BITTER-CRESS

Pratt and Hosmer do not list this. Eaton lists it in an appendix as probably in Concord. No specimen in Thoreau herbarium. A.R. Curtis collected this circa 1897 at Walden Pond misidentifying it as Cardamine hirsuta (BEDF specimen). Voucher specimen in BEDF collected by Laurence E. Richardson on June 2, 1960 at the foot of a ridge by Strawberry Hill Road. Image not available.

Cardamine pensylvanica (GM8: same; TH: same, Cardamine hirsuta - misapplied) COMMON BITTER-CRESS

Pratt does not list this. Hosmer and Eaton say this is common. Specimen in Thoreau herbarium without date or locality. There are about 12 references to this in Thoreau's *Journal*. Jarvis notes this in the 1830s in brook [Mill Brook] back of the church. J.M. Greenman collected this on May 30, 1897 on the banks of the Concord River (GH specimen). Eaton collected this on June 5, 1921 in a swampy glade near the source of Jenny Dugan Brook, and on July 26, 1958 in swampy woods in a gently flowing brook [possibly Azalea

Brook] on the north side of Nashawtuc Hill near the Assabet River (both BEDF specimens). Voucher specimen in NEBC collected by Eaton on September 10, 1932 on the shore of Bateman's Pond. Link to image.

CARDAMINE PRATENSIS (GM8: same: TH: same)

#### CUCKOOFLOWER

Pratt does not list this. Hosmer notes it at Heath's Spring and Hosmer Meadow and adds that he set it out himself. Eaton says it is rare, only at two stations. No specimen in Thoreau herbarium or reference to this in his *Journal*. Laurence E. Richardson collected this on May 16, 1966 in a flooding brook meadow at Liberty Street (NEBC specimen). This author collected this at Great Meadows on May 6, 1981 in the vicinity of the dike trail and canoe launch and seen commonly on both sides of the Concord River upstream and downstream from here (BEDF specimen). This author also saw it at Ball's Hill on May 5, 1982. Voucher specimen in NEBC Laurence E. Richardson on May 15, 1966 on a steep northern bank of the Assabet River. Link to image.

DRABA VERNA (GM8: same: TH: same)

### COMMON WHITLOW-GRASS

Pratt does not list this. Hosmer refers to it in front of the Antiquarian House. Eaton says it is abundant at a single station. No specimen in Thoreau herbarium or reference to this in his Journal. Voucher specimen in NEBC collected by Eaton on May 5, 1962 in light, sandy loam at Clarke's Nursery on Lowell Road where abundant. Link to image.

ERYSIMUM CHEIRANTHOIDES (GM8: same; TH: same)

#### WORMSEED MUSTARD

Pratt and Hosmer do not list this. Eaton says it is uncommon. No specimen in Thoreau herbarium or reference to this in his *Journal*. Voucher specimen in NEBC collected by Walter Deane on June 20, 1900 at "Ball's Hill by the [Concord] river." Link to image.

HESPERIS MATRONALIS (GM8: same; TH: same)

#### DAME'S-ROCKET

Pratt and Hosmer do not list this. Eaton says it is frequent, occasionally abundant. No specimen in Thoreau herbarium or reference to this in his Journal. Voucher specimen in NEBC collected by Eaton on June 20, 1958 on a moist bank along the abandoned railroad near Monument Street railroad crossing where thoroughly naturalized. Link to image.

IBERIS AMARA (GM8: same; TH: not treated in the manuals used by Thoreau) ROCKET CANDYTUFT

Pratt, Hosmer and Eaton do not list this. Specimen in Thoreau herbarium without date or locality which can be associated with his only reference to this in his Journal. He notes finding "Iberis umbellata" on July 12, 1856 naturalized along the roadside at Tuttle's [Cambridge Turnpike near Hawthorne Lane] and that it was a new plant. Iberis umbellata was the only Iberis listed in Thoreau's copy of Gray's Manual of Botany. The specimen has been determined by Brassicaceae specialist Ihsan Al-Shehbaz as Iberis amara. Jarvis collected a specimen in August 1836 in Concord in cultivation identified as this by R.E. Torrey in 1952 (MASS specimen). Voucher specimen in GH is Thoreau's collection of it. Link to image.

LEPIDIUM CAMPESTRE (GM8: same; TH: same)

#### **COW-CRESS**

Pratt does not list this. Hosmer notes it at Sawyer's Boat House and other unnamed places. Eaton says it is infrequent. No specimen in Thoreau herbarium. There are only two references to this in Thoreau's *Journal*. On June 6, 1858 he mentions Edith Emerson finding it in Meriam's field just south of the Beck Stow pine grove, and on June 12, 1859 referring to this field as the Lepidium campestre field in the vicinity of Gowing's Swamp. Voucher

specimen in NEBC (and in BEDF) collected by Eaton on May 30, 1935 in a dry field at Clamshell Bluff. Link to image.

LEPIDIUM DENSIFLORUM (GM8: same; TH: Lepidium intermedium) PRAIRIE PEPPERGRASS

Pratt and Hosmer do not list this. Eaton says it is common. No specimen in Thoreau herbarium or reference to this in his *Journal*. Voucher specimen in NEBC collected by Eaton on June 10, 1958 on the floor of a discontinued gravel pit on Walden Street at the foot of Brister's Hill. Link to image.

LEPIDIUM LATIFOLIUM (GM8: same; TH: not treated in the manuals used by Thoreau) DITTANDER

The earliest collection of this in New England appears to be in 1924 in Essex County, MA. So, no mention of it by Pratt, Hosmer, or Thoreau. Eaton does not list it. Lisa Standley collected this along Route 2 (eastbound) between the Sudbury River and Sudbury Road. Voucher specimen in NEBC collected by Lisa Standley on July 20, 2018. Link to image.

Lepidium virginicum subsp. virginicum (GM8: same; TH: same)

WILD PEPPERGRASSS

Pratt merely notes its habitat. Hosmer and Eaton say it is common. Specimen in Thoreau herbarium without date or locality. There are about four references to this in Thoreau's *Journal*. Voucher specimen in NEBC collected by Eaton on June 20, 1958 in waste ground near the railroad track near the Monument Street railroad crossing. <u>Link to image</u>.

LOBULARIA MARITIMA (GM8: same; TH: Alyssum maritimum) SWEET ALYSSUM

Pratt, Hosmer and Eaton do not list this. No specimen in Thoreau herbarium or reference to this in his *Journal*. Voucher specimen in NEBC (and in BEDF) collected by Mary Walker on October 14, 1990 in loose gravels and sandy soil along Great Meadows dike trail. <u>Link to image</u>.

NASTURTIUM MICROPHYLLUM (GM8: Nasturtium officinale var. microphyllum; TH: not treated in the manuals used by Thoreau)

Pratt and Hosmer do not list this. Eaton says it is uncommon. No specimen in Thoreau herbarium or reference to this in his *Journal*. Voucher specimen in NEBC collected by Laurence E. Richardson on July 2, 1962 in the running water of Spencer Brook. <u>Link to image</u>.

NASTURTIUM OFFICINALE (GM8: same; TH: same)

TRUE WATER-CRESS

Pratt notes that this was introduced by Thoreau into Concord and that it is in the brook near the Agricultural Fair Grounds. Hosmer simply records at it at the Mill Brook and other unnamed places. Eaton says it is uncommon. No specimen in Thoreau herbarium. There are about six references to this in Thoreau's *Journal*. On April 26, 1859 Thoreau reports getting this from Lynn, MA and setting it not in flower in Depot Field Brook in Concord. On July 6, 1859 he records it in flower and beginning to set seed at this location. On February 28, 1860 he expresses surprise at how much his introduction has expanded in size. This appears to be the only species introduced by Thoreau into Concord. Cherrie Corey reported (2014) that it can be found throughout the town in good supply. Voucher specimen in BEDF collected by Laurence E. Richardson on August 19, 1961 at Spencer Brook. Image not available. Since the voucher is likely to be misidentified Nasturtium microphyllum, a definitive specimen needs to be collected.

# RAPHANUS RAPHANISTRUM (GM8: same; TH: same) WILD RADISH

Pratt simply says this is a troublesome weed. Hosmer calls this common. Eaton says it is frequent. Specimen in Thoreau herbarium not from Concord and most likely is Rhaphanus sativus according to Brassicaceae specialist Ihsan Al-Shehbaz. There are about 10 references to this in Thoreau's *Journal*, some or all likely to be Rhaphanus sativus given the apparent misidentification just noted. Voucher specimen in BEDF collected by Eaton on July 9, 1961 in dry, sandy soil of a neglected field at the end of Ball's Hill Road. Image not available.

# RAPHANUS SATIVUS (GM8: same; TH: same)

#### GARDEN RADISH

Pratt and Hosmer do not list this. Eaton says it is uncommon, seldom persisting. Two specimens in Thoreau herbarium without date or locality, one labeled "from garden." One specimen identified by Thoreau as Raphanus raphanistrum not from Concord is apparently this species. There does not appear to be any reference to this in Thoreau's *Journal*. Voucher specimen in GH collected by David Potter on July 25, 1925 with no locale within Concord given. Link to image.

Rorippa palustris subsp. palustris (GM8: Rorippa islandica var. fernaldiana + Rorippa islandica var. islandica -- misapplied; TH: Nasturtium palustre)

LAKE-CRESS

Pratt says this is common. Hosmer lists it without comment. Eaton says it is not common. No specimen in Thoreau herbarium. There are only about four references to this in Thoreau's *Journal*. On July 9, 1852 he refers to it by the ditch just beyond Clematis Brook. On July 15, 1853 he notes it at Loring's "ram." On June 14, 1854 he again mentions it at the foot of Loring's. Mary Rodman collected this on July 14, 1905 at Nashoba Park (NEBC specimen). Eaton collected this on July 9, 1961 in damp gravel along the middle dyke at the Great Meadows National Wildlife Refuge (NEBC specimen). Voucher specimen in NEBC collected by Eaton on July 28, 1961 in wet alluvium of riverbank of the Assabet River near the mouth of Spencer Brook. Link to image.

Rorippa palustris subsp. hispida (GM8: Rorippa islandica var. hispida; TH: Nasturtium palustre var. hispida, Nasturtium hispidum)

Pratt and Hosmer do not list this. Eaton says this is common, often abundant in the river meadows. Specimen in Thoreau herbarium without date or locality. There appear to be just three references to this in his *Journal*. On June 16, 1854 he questions whether he has found this behind Loring's, and so on down the river [Assabet River]. On August 26, 1854 in talking about the Assabet River the previous day he mentions this as still in flower. On June 14, 1856 he refers to it with a question mark while in the vicinity of the Assabet River. Eaton collected this on October 11, 1956 in muddy sloughs of the river meadow, Wheeler's Meadow near Nashawtuc Bridge, and July 20, 1957 in a wet ditch near the river in Hudson's Meadow (both BEDF specimens). Voucher specimen in NEBC collected by Edward Hoar on August 10, 1857 in "Ditch foot of garden" [by or close to the Sudbury River]. Link to image.

SISYMBRIUM ALTISSIMUM (GM8: same; TH: not treated in the manuals used by Thoreau) TUMBLE-MUSTARD

Pratt and Hosmer do not list this. Eaton says it is common. No specimen in Thoreau herbarium or reference to this in his *Journal*. Eaton collected this on June 29, 1958 in waste ground of the West Concord Dump at Laws Brook Road, and on July 10, 1958 in dry, sandy gravel in a discontinued gravel pit at the bottom of Brister's Hill (both BEDF specimens). Laurence E. Richardson collected this on July 23, 1960 at Nashoba Brook and Route 2

(BEDF specimen). Voucher specimen in NEBC collected by Emile F. Williams on June 20, 1908 in "Waste land." Link to image.

SISYMBRIUM OFFICINALE (same, including var. leiocarpum; TH: same, Erysimum officinale) HEDGE-MUSTARD

Pratt simply notes its habitat (waste places). Hosmer and Eaton say it is common. Specimen in Thoreau herbarium without date or locality. There are about 12 references to this in Thoreau's *Journal*. Eaton collected this on July 25, 1957 in a barnyard of G.[eorge F.] Root's Farm [Intervale Farm on Sandy Pond Road] (NEBC specimen). Voucher specimen in GH collected by Emile F. Williams on June 20, 1908 in a waste area with no speficic locale in Concord given. Link to image.

THLASPI ARVENSE (GM8: same; TH: not treated in the manuals used by Thoreau) FIELD PENNY-CRESS

Pratt and Hosmer do not list this. Eaton says it is infrequent. No specimen in Thoreau herbarium and no reference to this in his *Journal*. Voucher specimen in NEBC collected by Eaton on August 21, 1957 in weedy field at G.[eorge F.] Root's Farm [Intervale Farm on Sandy Pond Road]. Link to image.

Turritis glabra (GM8: Arabis glabra; TH: same)

TOWER-MUSTARD

Pratt and Hosmer do not list this. Eaton says this is rare, formerly abundant in a fallow field. Specimen in Thoreau herbarium not from Concord, and Thoreau's only *Journal* reference to this is to occurrence not in Concord. Eaton collected this on May 30, 1935 and on June 7, 1935 in a dry, fallow field at Clamshell Bluff (NEBC specimens, the latter also in BEDF). In 2021 Cherrie Corey reported that this had become common. Voucher specimen in NEBC collected by M.L. Fernald on June 15, 1913 on 'Cliffs in woods" [Conantum, based on other collections by him at this locale]. Link to image.

**Buxaceae** (GM8: same; TH: Euphorbiaceae (in part))

PACHYSANDRA TERMINALIS (GM8: same; TH: not treated in the manuals used by Thoreau) JAPANESE PACHYSANDRA

Pratt, Hosmer and Eaton do not list this. No specimen in Thoreau herbarium or reference to this in his *Journal*. Voucher specimen in NEBC (and in BEDF) collected by this author on April 27, 1982 established at roadside near a cattail pond at the corner of Bedford St. and the filter bed access road. Link to image.

**Cabombaceae** (GM8: Nymphaeaceae (in part); TH: same)

Brasenia schreberi (GM8: same; TH: Brasenia peltata)

WATER-SHIELD

Pratt says this is common on the river. Hosmer also says it is common and mentions the river, Goose and Bateman's Ponds. Eaton says it was formerly common to abundant but now scarce except in unpolluted waters. Specimen in Thoreau herbarium without date or locality. There are nearly 30 references to this in Thoreau's *Journal*. Jarvis notes this at Goose Pond. Laurence E. Richardson collected this on September 11, 1965 at Bateman's Pond (BEDF specimen). Voucher specimen in NEBC collected by Edward Hoar on August 22, 1886 in a horse pond east of road from Hildreth's toward Bateman's Pond. Link to image.

CABOMBA CAROLINIANA (GM8: same; TH: not treated in the manuals used by Thoreau)

Pratt and Hosmer do not list this. Eaton says it is abundant in Fairhaven Bay and occurs downstream in the river. First specimen collected in Massachusetts was in 1935 in Plymouth County. No specimen in Thoreau herbarium or reference to this in his *Journal*. C.B. Hellquist and W.J.L. Zubrin collected this on September 22, 1971 in a pond off Concord River on the north side of the river approximately ½ mile west of Route 225, but the description gives a location in Carlisle, MA. (NEBC and MASS specimens). C.B. Hellquist collected this on October 5, 1971 in the Assabet River at its junction with the Sudbury and Concord Rivers [i.e., near Egg Rock] (MASS and Keene State University specimen). Voucher specimen in NEBC (and in BEDF) collected by William Countryman and Laurence E. Richardson on August 24, 1968 common in Fairhaven Bay. Link to image.

## **Campanulaceae** (GM8: same; same)

Campanula aparinoides (GM8: same; TH: same)

MARSH BELLFLOWER

Pratt and Hosmer say this is common. Eaton calls it frequent. Specimens in Thoreau herbarium without date or locality. There are about 11 references to this in Thoreau's *Journal*. Jarvis notes this on July 12, 1834 at Joseph Buttrick's and Captain H. Hunt's. Laurence E. Richardson collected this on July 21, 1960 in a little swamp west of College Road (BEDF specimen). In 2021 Cherrie Corey reported not having seen this in the town. Voucher specimen in NEBC collected by Emile F. Williams on August 28, 1898 in an open bog. Link to image.

CAMPANULA RAPUNCULOIDES (GM8: same; TH: not treated in the manuals used by Thoreau)

#### CREEPING BELLFLOWER

Pratt does not list this. Hosmer merely notes that it occurs along roadsides. Eaton says it is occasional. Specimen in Thoreau herbarium from his family's garden labeled by him Campanula americana has been identified as Campanula rapunculoides by Walter Kittredge in 2017. Thoreau's *Journal* entry of July 22, 1853 refers to Campanula americana naturalized in the family garden. Voucher specimen in NEBC collected by Laurence E. Richardson along gravelly roadside [of Barrett's Mill Road] on July 30, 1968. <u>Link to image.</u> CAMPANULA ROTUNDIFOLIA (GM8: same; TH: same)

## HAREBELL

Pratt says this was introduced (by him, about 1858 according to the *Flora of Middlesex County, Massachusetts*) from Newburyport, MA and that it is now [1878] growing in many places in Concord where it thrives well. Hosmer says it is rather common. Eaton says it is scarce and uncommon, but several stations in Concord (Martha's Point and cliff to north are noted in his unpublished notes). Specimens in Thoreau's herbarium and references to it in his *Journal* are not for occurrences in Concord. Edward hoar collected this in August 1879 at Minot Pratt's roadside [probably Monument Street in front of the Pratt residence] where he notes it as introduced (NEBC specimen). M.L. Fernald collected this in flower on October 3, 1909 on a sandy, wooded bank toward Carlisle (NEBC specimen). Eaton collected this on July 1, 1957 in open, rocky woods at Conantum (BEDF specimen). Voucher specimen in GH collected by Emile F. Williams on August 9, 1908 at Conantum. Link to image.

CAMPANULA TRACHELIUM (GM8: same; TH: not treated in the manuals used by Thoreau) BATS-IN-THE-BELFRY

Pratt and Hosmer do not list this. Eaton says it is casual. No specimen in Thoreau herbarium or reference to this in his *Journal*. Voucher specimen in NEBC collected by William Brewster on August 18, 1905 -- "Waif, springing up by the cabin near Concord River." <u>Link to image</u>.

Lobelia cardinalis (GM8: same; TH: same)

CARDINAL-FLOWER

Pratt and Hosmer say this is common. Jarvis calls it very abundant in Concord. Eaton says it is frequent, usually scarce, occasionally and transiently abundant. Three specimens in Thoreau herbarium are undated and without locale except the white form one that he collected from Cardinal Ditch in Concord. That specimen of the white form can be associated with his *Journal* entry for August 27, 1856. There are about 37 references to this in Thoreau's *Journal*. Eaton collected the white form of this on September 10, 1932 on a wet, peaty shore of Bateman's Pond (NEBC and BEDF specimens). Laurence E. Richardson collected this on August 7, 1964 at a cove in the Concord River at Bedford corner (BEDF specimen), and on August 29, 1971 on a bank of the Assabet River (NEBC specimen). This author found this sparingly along the Assabet River in the late 1970s and early 1980s and plentiful (in flower) on August 20, 1982 a pool just above the Thoreau mill site in the Estabrook Woods. Voucher specimen in NEBC collected by Edward Hoar on August 8, 1857 at Oak Meadow [now Mink Pond in the Estabrook Woods] on wet ground in the shade. Link to image.

Lobelia inflata (GM8: same; TH: same)

INDIAN TOBACCO

Pratt, Hosmer and Eaton say this is common. Specimen in Thoreau herbarium without date or locality. There are about nine references to this in Thoreau's *Journal*. Eaton collected this on October 9, 1921 in a moist, grassy glade on the north slope of Annursnack Hill (BEDF specimen). Voucher specimen in NEBC collected by Edward Hoar on August 5, 1858 with no locale within Concord given. <u>Link to image</u>.

Lobelia spicata (GM8: same; TH: same, Lobelia pallida)

PALE-SPIKED LOBELIA

Pratt, Hosmer, Jarvis and Eaton say this is common. Two specimens in Thoreau herbarium without date or locality. There are about 15 references to this in Thoreau's *Journal*. Eaton collected this on July 19, 1920 on sand on a dry roadside of Estabrook Road (BEDF specimen). Laurence E. Richardson collected this on June 26, 1960 on the south side of Annursnack Hill (BEDF specimen). Voucher specimen in NEBC collected by Walter Deane in a dry field on July 13, 1886. Link to image.

Triodanis perfoliata (GM8: Specularia perfoliata; TH: Specularia perfoliata, Campanula perfoliata)

VENUS'S-LOOKING-GLASS

Pratt simply notes its habitat. Hosmer says it is common [in the Concord vicinity]. Eaton calls it rare. Two specimens in Thoreau herbarium are without date or locality. There are about six references to this in Thoreau's *Journal*. On June 25, 1852 and on June 23, 1854 he notes finding it in blossom at Fair Haven Cliffs. On June 23, 1853 he mentions finding it in flower at Clamshell Hill. Jarvis notes this in July 1834 near Captain Hunt's. Eaton collected this on July 31, 1958 on the dry slope of a granitic outcropping in sterile oak woods along a wood road from Strawberry Hill Road towards Middlesex School (NEBC specimen). This author collected it on June 28, 1980 at the edge of a cultivated field near Mill Brook north of the ice house off Walden Street behind the police station, about a few

dozen plants (BEDF specimen). On July 2, 1981 this author found it in flower at the Conantum Cliffs. In 2021 Cherrie Corey reported that this was infrequent in the town. Voucher specimen in NEBC (and in BEDF) collected by Eaton on June 25, 1932 on thin, sterile soil of a dioritic ledge of Conantum Cliff (west side of Fairhaven Bay) [see Conantum Cliffs in this author's *Thoreau Place Names*]. Link to image.

**Cannabaceae** (GM8: Cannabinaceae; TH: Urticaceae (in part))

CANNABIS SATIVA (GM8: same; TH: same)

**MARIJUANA** 

Pratt does not list this. Hosmer lists this without comment. Eaton says it is rare. One specimen in Thoreau herbarium not from Concord and one specimen without date or locality. There are about 10 references to this in Thoreau's *Journal*. On August 11, 1852 he notes finding it in flower on one side of the Hubbard Meadow Bridge. Voucher specimen in NEBC collected by Laurence E. Richardson on September 10, 1971 on composted waste near a farm on Barrett's Mill Road where it was abundant until destroyed. Image not available.

Celtis occidentalis (GM8: same, including var. pumila; TH: same, Celtis crassifolia) HACKBERRY

Pratt notes that there was a few years ago [ca. 1875] a single tree on the farm of Mr. Hurd [at Nashawtuc Hill] cut down, and that probably others may come from its seeds. Hosmer simply refers to this at A.P. Hosmer's Ledge, Cat Hill [probably not in Concord], and Nashawtuc [Hill]. Eaton says it is rare, noting that a seedling was recently [1974] discovered near the summit of Annursnack Hill. Two specimens in Thoreau herbarium without date or locality. There are about 26 references to this in Thoreau's *Journal*. On June 16, 1853 while visiting Nashawtuc Hill he refers to "the celtis," earlier references are certainly to this same site as confirmed by his September 28, 1857 entry. On September 28, 1857 while at Nashawtuc Hill he records: "... they [workmen clearing away hedges from farm walls] have cut down two or three of the very rare celtis trees, not found anywhere else in town. The Lord deliver us from these vandalic proprietors! The botanist and lover of Nature has, perchance, discovered some rare tree which has sprung up by a farmer's wall-side to adorn and bless it. ... but, walking there again, he finds the farmer has sent a raw Irishman, ... who knows not whether he is hacking at the upas tree or the Tree of knowledge, with axe and stub-scythe to exterminate it, ... If some are prosecuted for abusing children, others deserve to be prosecuted for maltreating the face of nature committed to their care." This was the only location in Concord known to Thoreau and Pratt. Eaton collected this on August 25, 1917 at foot of Wheeler's Hill [Nashawtuc Hill] on the southwest side along a stone wall, and on June 6, 1964 on the southeast side of Annursnack Hill near summit at the edge of deciduous woods close to stone wall flanking the old pasture on its easterly side, a single sapling about 3 meters high (both NEBC specimens). In the late 1970s and early 1980s this author found it to be occasional, still on Nashawtuc Hill, but also along roadsides usually in the vicinity of the rivers, such as on Elm Street and (April 7, 1981) the edge of a marsh at Lowell Road opposite the Star Market that was there at that time. On September 3, 1980 this author also found a couple trees of it along Barrett's Mill Road between Laurence Richardson's residence and Lowell Road on the north side. Voucher specimen in NEBC collected by Edward Hoar in September 1857 at Lee's Hill [Nashawtuc Hill]. Link to image.

# HUMULUS LUPULUS var. LUPULUS (GM8: same; TH: same)

Pratt notes this on the south side of Punkatasset Hill and speculates that it came from old cultivated hop fields. Hosmer mentions it at the dump and other places not specified. Eaton does not list this other than in an appendix as unlikely in Concord but "Perhaps Probable." Specimen in Thoreau herbarium without date or locality. The single reference to this in Thoreau's *Journal* is with great uncertainty as to identity. This author found it along Virginia Road in 1980 and on the east side of the railroad tracks by Nut Meadow Swamp in 1982. Voucher specimen in BEDF collected by this author on August 30, 1980 at roadside along Virginia Road near Thoreau's birthplace site, growing over Ulmus americana and Vitis labrusca. Image not available.

Caprifoliaceae (GM8: same (in part); TH: same (in part))

Diervilla lonicera (GM8: same; TH: Diervilla trifida)

**BUSH-HONEYSUCKLE** 

Pratt simply says it occurs in rocky woods in various parts of the town. Hosmer calls this common. Eaton says it is frequent. Specimen in Thoreau herbarium without date of locality. There are about 18 references to this in Thoreau's *Journal*. Eaton collected this on June 7, 1935 on a moist bank in the Town Forest (NEBC specimen). Voucher specimen in NEBC collected by Eaton on June 22, 1930 on moist bank in partial shade in Lone Tree Hollow [sink hole that had Hepatica] near Goose Pond. Link to image.

Linnaea borealis var. longiflora (GM8: Linnaea borealis var. americana; TH: Linnaea borealis)

AMERICAN TWINFLOWER

Pratt says the following: "Rare. But three or four small patches of it found in Concord. Two of these are in Walden Woods, and one in woods back of Mr. Cameron's, near Carlisle line." Pratt also mentions it growing on the southerly side of a brook in Lincoln flowing into Fairhaven Bay, but not flowering there. Hosmer simply notes it near A.F. Calef's. Eaton says it is rare, not seen since 1931, subsequent to an extensive fire in Walden Woods which spread from an untended municipal dump. Multiple specimens in Thoreau herbarium without date or locality. There are about 21 references to this in Thoreau's Journal. His first mention of it is on June 9, 1851 where he records gathering it but not specifying where. On January 21, 1852 he lists "Linnaea Borealis Wood" among other woodlands being cut down that winter more seriously than ever. On June 19, 1852 he notes not being able to find the Linnaea in Loring's [woods?], perhaps because the woods are cut down. This suggests that this is the site referred to as Linnaea Borealis Wood in January of that year. On June 24, 1852 while in the vicinity of or returning from White Pond he remarks on finding this just going out of blossom and how he should have found it long ago, and how its leaves densely cover the ground. On June 3, 1853 he mentions going to Annursnack Hill by way of the Linnaea which was not yet flowering. The next sentence refers to "that thick pine wood" in connection with the Linnaea. On June 6, 1853 he visits the Linnaea Woods, a famous place for tanaaers, and finds the Linnaea in flower. On May 30, 1854 he finds this budded in Stow's Wood by Deep Cut. On June 7, 1854 he records going to Dugan Desert via the Linnaea Hills and finding it abundantly in flower. On June 1, 1855 he discovers a station for this at the end of a ridge while surveying the Holden wood-lot (in the vicinity of Nut Meadow Brook). On June 10, 1856 on his way to Dugan Desert he notes finding some of it in flower within a rod of the top of the hill [Linnaea Hills]. In the same paragraph he mentions sproutland of Loring's thick wood that was. On August 28, 1856 going along Marlborough road

he refers to going over "linnaea sprout-lands." From the above Journal references it appears that Thoreau knew Linnaea from three sites in Concord: the Loring's Wood west of Loring's Pond [Linnaea Borealis Wood, Linnaea Hill(s), Linnaea Wood-lot], Stow's Wood by Deep Cut in the Walden Woods, and in the Holden wood-lot near Nut Meadow Brook. The single station known to Hosmer and Eaton was not known to Thoreau, and is in the Ministerial wood-lot in Walden Woods where the Hepatica was found. Pratt knew of the two stations in Walden Woods, probably the one in the Loring's Wood and one near Carlisle unknown to the others. A small bit of this was introduced by Mary Walker and Sarah Chapin about 1979 at the Ministerial Wood-lot [Hepatica] site known to Eaton and Hosmer, but is unlikely to have survived. Voucher specimen in NEBC collected by Eaton on June 8, 1930 on a steep, moist bank, north-facing slope (Lone Pine bank), Ministerial Wood-lot [Hepatica site], 100 meters east of Adiantum station, apparently destroyed by fire in 1931. Link to image.

LONICERA JAPONICA (GM8: same; TH: not treated in the manuals used by Thoreau) JAPANESE HONEYSUCKLE

Pratt, Hosmer and Eaton do not list this. No specimen in Thoreau herbarium or reference to this in his *Journal*. Voucher specimen in NEBC collected by this author on August 13, 1979 (flowers) and August 31, 1980 (fruit) in a thicket near the Concord River along the trail near the river between the North Bridge and the Great Meadows, north of Poplar Hill. <u>Link</u> to image.

LONICERA MORROWII (GM8: same; TH: scientifically described in 1856, not treated in the manuals used by Thoreau)

Pratt and Hosmer do not list this. Eaton says this is frequent, becoming common, and locally abundant. No specimen in Thoreau herbarium and no reference to this in his *Journal*. S. Santon collected this on May 25, 1929 in woods, originally identified as Lonicera canadensis, but corrected by Walter Kittredge to Lonicera morrowii (GH specimen). Eaton collected this on May 31, 1958 along Garfield Road (BEDF specimen). Voucher specimen in NEBC collected by Eaton on May 15, 1935 in the Town Forest woods. Link to image.

# LONICERA SEMPERVIRENS (GM8: same; TH: same)

#### TRUMPET HONEYSUCKLE

Pratt does not list this. Hosmer simply notes it near the Lime Kiln [Estabrook Woods] and along Lowell Road. Eaton says this is rare, only at two stations. No specimen in Thoreau herbarium or reference to this in his *Journal*. Since it is highly unlikely that this conspicuous vine would have escaped the eyes of both Pratt and Thoreau, this author (unlike Eaton) considers this introduced in Concord. Eaton collected this on September 13, 1957 in open oak woods on his wood lot west of G.[eorge F.] Root's Farm [Intervale Farm on Sandy Pond Road] under observation since 1920 (NEBC specimen). This author found at least seven stations of this in Concord including the northern part of Two Rod Road in the Estabrook Woods, along the path between Martha's Point and Lee's Cliff opposite the island in Fairhaven Bay, northwest of Redwing Swamp in the Estabrook Woods, southwest of Annursnack Hill, just east of Moore's Swamp, at the southwestern edge of Sleepy Hollow Cemetery, and in the Estabrook Woods near Minot Pratt's residence. Voucher specimen in NEBC collected by Eaton on August 1, 1922 along stone wall of Estabrook Road. Link to image.

SYMPHORICARPOS ALBUS var. LAEVIGATUS (GM8: same; TH: not scientifically described until 1905)

#### PACIFIC SNOWBERRY

Pratt and Hosmer do not list this. Eaton says this is rare. No specimen in Thoreau herbarium. Voucher specimen in NEBC collected by Laurence E. Richardson on September 9, 1972 spreading along the roadside by Barrett's Mill. Link to image.

Triosteum aurantiacum var. aurantiacum (GM8: same; TH: not scientifically described until 1901, so not distinguished from Triosteum perfoliatum before then) **RED HORSE-GENTIAN** 

Pratt says this is rare, occurring in rocky woods at Conantum, the Sugar Maple grove and on Hurd's hill [Nashawtuc Hill]. Hosmer simply notes it at Hurd's Hill [Nashawtuc Hill] and Conantum. Eaton says it is very rare. Specimen in Thoreau herbarium without date or locality. There are about 16 references to this in Thoreau's Journal. On June 14, 1851 he notes it in blossom near the top of Nashawtuc Hill under a wall. On August 31, 1852 he refers to the fruit of this at Tupelo Cliff [now Martha's Point]. Jarvis notes this as Triosteum perfoliatum on June 13, 1835 at Lee's Hill [Nashawtuc Hill]. Eaton collected this on June 11, 1933 in rocky, deciduous woods at Martha's Point (NEBC specimen). This author found it at the native Sugar Maple Grove on Conantum on July 29, 1982. It was in fruit there on September 16, 1982. In September 2015 Cole Winstanley found a few plants of this in a seep between two rises west of White Pond close to the Sudbury town line and west of the railroad tracks. Voucher specimen in NEBC collected by Edward Hoar on June 9, 1858. Link to image.

# **Caryophyllaceae** (GM8: same; TH: same (in part))

AGROSTEMMA GITHAGO var. GITHAGO (GM8: same; TH: same, Lychnis githago) COMMON CORN-COCKLE

Pratt says this is frequent in grain fields. Hosmer only notes this at a town dump. Eaton calls it occasional. Specimens in Thoreau herbarium are not from Concord. There are two references to this in Thoreau's journal (neither to occurrence in Concord) with two possible additional references very early in his Journal. Voucher specimen in NEBC collected by Eaton on July 17, 1957 in long grass at the edge of a cultivated field at G. [eorge F.] Root's farm [Intervale Farm on Sandy Pond Road]. Link to image.

ARENARIA SERPYLLIFOLIA var. SERPYLLIFOLIA (GM8: same: TH: same)

#### THYME-LEAVED SANDWORT

Pratt says this is rather common. Hosmer lists it without comment. Eaton calls it occasional. Specimen in Thoreau herbarium without date or locality. There are about 11 references to this in Thoreau's Journal. Voucher specimen in NEBC collected by Horace Mann Jr. in 1862 with no locale within Concord given. Link to image.

CERASTIUM FONTANUM subsp. VULGARE (GM8: Cerastium vulgatum - misapplied; TH: Cerastium viscosum - misapplied)

### COMMON MOUSE-EAR

Pratt and Hosmer say this is common. Eaton calls it an abundant weed. Specimen in Thoreau herbarium without date or locality. There are about 16 references to this in Thoreau's Journal. Voucher specimen in NEBC collected by Eaton on July 16, 1958 in a rill from springy ground in woods 200 meters south of Martha's Point. Link to image.

Cerastium nutans var. nutans (GM8: same; TH: same)

Pratt and Hosmer do not list this. Eaton says this is very rare, that Thoreau's collection of it is the only one east of the Connecticut River except in Connecticut. Specimen in Thoreau herbarium labeled by him "Island Rock" [current Egg Rock] and dated "'56." Identity of specimen confirmed by Eaton. There are just three references to this in Thoreau's *Journal*. On May 22, 1856 he refers to finding an unusual Cerastium on the rock [Egg Rock] near the bass[wood]. On May 31, 1856 he notes again finding it on the rock at the Island [Egg Rock at the confluence of Sudbury and Assabet Rivers] and tentatively identifies it as Cerastium nutans. On June 5, 1856 he gives additional description of it. Voucher specimen in GH is Thoreau's collection of it. Link to image.

DIANTHUS ARMERIA subsp. ARMERIA (GM8: same; TH: same)
DEPTFORD PINK

Pratt says this is rare and notes it at the roadside by Joseph Derby's and also south of Punkatasset Hill. Hosmer simply notes it at Joseph Derby's, near Hudson's Barn on Lowell Road, Liberty Street and Ripley's Hill. Eaton calls it infrequent. No specimen in Thoreau herbarium. The single reference to this in Thoreau's *Journal* is not to occurrence in Concord. This author saw it in flower in Concord on June 14, 1981 apparently in the general vicinity of (not in) Ministerial Swamp. Voucher specimen in NEBC (and in BEDF) collected by Eaton on July 15, 1935 in an uncultivated field at Clamshell Bluff. Link to image.

GYPSOPHILA MURALIS (GM8: same; TH: not treated in the manuals used by Thoreau)

Pratt does not list this. It is included without comment in an addendum of three loose pages associated with his manuscript after his death. Hosmer notes finding this once in his garden in 1890 and also in MacDonald's Yard. Eaton says this is local. No specimen in Thoreau herbarium or reference to this in his *Journal*. Only voucher specimen is an undated specimen of Hosmer in NEBC with no locale in Concord given. Since Hosmer notes it only in cultivated habitats, its wild occurrence in Concord is questionable. Voucher of wild occurrence needed. Link to image.

Moehringia lateriflora (GM8: Arenaria lateriflora; TH: same, Arenaria lateriflora) GROVE SANDWORT

Pratt says this is frequent. Hosmer and Eaton call it common. Specimens in Thoreau herbarium without date or locality or not from Concord. There are about seven references to this in Thoreau's *Journal*. On June 5, 1855 Thoreau notes this in flower in Clamshell flat meadow. Jarvis notes this toward Len Hubbard's on June 9, 1835. Eaton collected this on June 27, 1959 in rocky woods near a dioritic outcropping on the west side of Garfield Road (BEDF specimen). Voucher specimens in MASS collected by Walter Deane on July 10, 1886 in woods. Link to image.

Paronychia canadensis (GM8: same; TH: Anychia dichotoma) SMOOTH FORKED CHICKWEED

Pratt simply notes this at the base of the Cliffs at Fairhaven hill, and near the Sugar Maple grove in the Nine-Acre Corner area. Hosmer does not list this. Eaton says this is rare. Specimens in Thoreau herbarium without date or locality. There are about nine references to this in Thoreau's *Journal*. On July 4, 1853 he notes finding this in flower near the slippery elm (Ulmus rubra) at Lee's Cliff. On July 31, 1853 he refers to this growing on the south side of Heywood's Peak. On July 1, 1854 he mentions this as growing in the steep path beyond the springs in the vicinity of Fairhaven Cliffs. On July 14, 1854 he refers to it at Brown's watering-place. On September 4, 1857 he records this at a cleft rock by a hill just west of a black spruce (Picea mariana) bog southeast of Bateman's Pond. This author saw this in

flower on July 15, 1981 on a cluster of rocks east of Bateman's Pond (not the cliffs on the edge of the pond). On September 4, 1982 this author saw this on a pile of dirt near the intersection of trails at the Estabrook Road entry area to Estabrook Woods. Voucher specimen in NEBC (and in BEDF) collected by Eaton on July 26, 1959 in sandy soil on cliff talus at the foot of Fairhaven Hill on the southwest side. Link to image.

SAGINA PROCUMBENS (GM8: same; TH: same)

## MATTED PEARLWORT

Pratt does not list this. Hosmer simply notes this at Conantum. Eaton says it is frequent, occasionally abundant. Specimen in Thoreau herbarium without date or locality. There are about three references to this in Thoreau's *Journal*. On December 23, 1855 he notes this at Lee's Cliff not knowing it at that time and referring to it as like an Arenaria. On July 17, 1857 he refers to it still flowering at Lee's Cliff. Voucher specimen in NEBC collected by Eaton on September 5, 1957 on a sandy, moist sidewalk. Link to image.

SAPONARIA OFFICINALIS (GM8: same; TH: same)

#### **BOUNCING-BET**

Pratt simply lists habitat. Hosmer and Eaton say it is common. Specimen in Thoreau herbarium identified by Walter Kittredge without date or locality misidentified by Thoreau as Vaccaria hispanica. The only reference to this (as Saponaria vaccaria) in his *Journal* is on July 28, 1853 around the house of Mrs. Brooks. Eaton collected this on August 23, 1957 in open, deciduous woods along a wood road at the southeastern foot of Annursnack Hill (BEDF specimen). Voucher specimen in NEBC collected by Eaton on August 14, 1957 on a dry, gravelly shoulder of a railroad track. Link to image.

SCLERANTHUS ANNUUS subsp. ANNUUS (GM8: same; TH: same) ANNUAL KNAWEL

Pratt says this is rather rare. Hosmer does not list this. Eaton says it is abundant at a single station. Specimens in Thoreau herbarium without date or locality. There are about ten references to this in Thoreau's *Journal*. On November 6, 1855 he mentions it in the sand on the railroad causeway still in flower growing in large tufts. On May 6, 1856 he notes it in blossom at Clamshell Hill. Voucher specimen in NEBC collected by Eaton July 9, 1961 on a dry, gravelly roadside along Ball's Hill Road. Link to image.

Silene antirrhina (GM8: same; TH: same)

#### SLEEPY CATCHFLY

Pratt, Hosmer and Eaton say this is common. Specimen in Thoreau herbarium without date or locality. There are about nine references to this in Thoreau's *Journal*. Eaton collected this on July 2, 1936 in a dry field at Clamshell Bluff, and June 10, 1958 in dry, sandy waste ground at the foot of Brister's Hill (BEDF specimens). Voucher specimen in NEBC collected by Eaton on July 16, 1958 in dry, rocky woods on diorite outcrop at Martha's Point. Link to image.

SILENE ARMERIA (GM8: same; TH: same)

## **GARDEN CATCHFLY**

Pratt says this is occasionally wild. Hosmer calls this rather common. Eaton calls this occasional. No specimen in Thoreau herbarium. There are three references to this in Thoreau's *Journal*. Voucher specimen in NEBC collected by Hosmer with no date or locale within Concord given. <u>Link to image</u>.

Silene caroliniana subsp. pensylvanica (GM8: Silene caroliniana var. pensylvanica; TH: Silene pennsylvanica)

WILD PINK

Pratt says this frequent. Hosmer says this is very common. Eaton calls this occasional. Specimens in Thoreau herbarium including the white form with no date or locality. There are

about 20 references to this in Thoreau's *Journal*. This author found it in flower on June 12, 1981 on the esker trail at Mink Pond in the Estabrook Woods near a large boulder, and on June 9, 1982 near Well Meadow Head. Voucher specimen in NEBC collected by Eaton on June 22, 1930 in dry, open, scrub woods in the vicinity of Goose Pond. <u>Link to image</u>.

SILENE CHALCEDONICA (GM8: Lychnis chalcedonica; TH: Lychnis chalcedonica) MALTESE-CROSS

Pratt does not list this. Hosmer notes it only at a town dump. Eaton says it is occasional. No specimen in Thoreau herbarium or reference to this in his *Journal*. Voucher specimen in NEBC collected by Hosmer with no date or locale within Concord given. Link to image.

SILENE CORONARIA (GM8: Lychnis coronaria; TH: Lychnis coronaria) MULLEIN PINK

Pratt, Hosmer and Eaton do not list this. No specimen in Thoreau herbarium (one misidentified by Thoreau as this was not from Concord). There are two references to this in Thoreau's *Journal*. On July 28, 1853 he refers to it as escaping from gardens in the neighborhood of Mrs. Brooks. The other reference relates to his herbarium specimen collected on Cape Cod. Voucher specimen in NEBC (and in BEDF) collected by this author on June 21, 1981 in a dry, grassy opening at the edge of a Mountain Laurel plantation on the southwestern slope of Punkatasset Hill. Link to image.

SILENE DIOICA (GM8: Lychnis dioica; TH: not treated in the manuals used by Thoreau)
RED CAMPION

Pratt and Hosmer do not list this. Eaton says this is infrequent. No specimen in Thoreau herbarium or reference to this in his *Journal*. Voucher specimen in NEBC collected by Eaton on July 30, 1957 along a roadside near the Keefe farm on the Old Road to Nine Acre Corner. Link to image.

SILENE LATIFOLIA (GM8: Lychnis alba; TH: not treated in the manuals used by Thoreau) WHITE CAMPION

Pratt and Hosmer do not list this. Eaton says this is common. Specimen in Thoreau herbarium (misidentified by Thoreau as Silene coronaria) not from Concord and no reference to it in his *Journal*. Voucher specimen in NEBC collected by Eaton on August 21, 1957 in a field along Sudbury Road near H.B. Bigelow's. Link to image.

SILENE NOCTIFLORA (GM8: same; TH: same)

**NIGHT-FLOWERING CATCHFLY** 

Pratt simply notes this in cultivated fields. Hosmer refers to it at a dump on Lowell Road. Eaton says it is common. No specimen in Thoreau herbarium or reference to this in his *Journal*. Voucher specimen in BEDF collected by this author and Mary Walker on July 2, 1982 in the Punkatasset Hill area. Image not available.

SILENE VULGARIS subsp. VULGARIS (GM8: Silene cucubalus; TH: Silene inflata) BLADDER CAMPION

Pratt calls this rare, noting it by the side of old walls near Hubbard Street. Hosmer simply notes it (as Silene cucubalus) on Lowell Road. Eaton says it is common. Specimen in Thoreau herbarium without date or locality, but his only *Journal* reference to it on June 21, 1858 notes pressing the specimen seen in Cambridge, MA. Jarvis notes it on July 23, 1835 near S. Conant's. Voucher specimen in NEBC collected by Eaton on June 19, 1958 in waste ground. Link to image.

SPERGULA ARVENSIS (GM8: same; TH: same) CORN SPURREY

Pratt simply notes habitat. Hosmer says it is common. Eaton calls it uncommon. Specimens in Thoreau herbarium without date or locality. There are about seven references to this in Thoreau's *Journal*. Jarvis notes this near S. Patch. Eaton collected this on July 9, 1961 in

light loam in a cultivated field near Ball's Hill (MASS and BEDF specimens). Voucher specimen in NEBC (and in BEDF) collected by Horace Mann, Jr. in 1862 with no locale within Concord given. Link to image.

SPERGULARIA RUBRA (GM8: same; TH: same)

#### **RED SAND-SPURREY**

Pratt does not list this. Hosmer says it is common (as Buda rubra). Eaton calls it uncommon. Specimens in Thoreau herbarium not from Concord, except possibly one without apparent date or locality. There are about eight references to this in Thoreau's *Journal*. On May 29, 1853 he refers to it in the roadside ditch just beyond A. Hosmer's hill. On May 30, 1854 he notes it in flower by the side of the railroad above the red house. Voucher specimen in NEBC collected by Hosmer with no date or locale within Concord. Link to image.

Stellaria borealis subsp. borealis (GM8: Stellaria calycantha, including var. isophylla; TH: same)

#### NORTHERN STITCHWORT

Pratt and Hosmer do not list this. Eaton says this is frequent. Specimens in Thoreau herbarium without date or locality. There are about six references to this in Thoreau's *Journal.* On May 15, 1856 he finds it on the brink of Heywood's Spring. On May 21, 1856 he notes what might be this species at the trough near the Turnpike near Hosmer's Spring. Eaton collected this on June 10, 1961 on a springy, sphagnous slope at the margin of the sphagnum bog [Heywood's Meadow] southeast of Walden Pond near the Lincoln line (BEDF specimen). Voucher specimen in NEBC collected by Eaton on June 11, 1921 in a wet sphagnous meadow at G.[eorge] F. Root's Swamp [now Crosby's Pond]. Link to image.

STELLARIA GRAMINEA (GM8: same; TH: not distinguished from Stellaria longifolia in the manuals used by Thoreau)

#### **COMMON STITCHWORT**

Pratt does not list this, but would not have distinguished it from Stellaria longifolia. Hosmer simply gives habitat as "meadows." Eaton says this is common. One specimen in Thoreau herbarium without date or locality under the name Stellaria longifolia appears to be this species. There are about nine references to Stellaria longifolia in Thoreau's *Journal* which could include Stellaria graminea. Eaton collected this on June 29, 1958 in a grassy field in low ground (BEDF specimen). Voucher specimen in NEBC collected by Hosmer with no date or locale within Concord given. Link to image.

Stellaria longifolia (GM8: same; TH: not distinguished from Stellaria graminea in the manuals used by Thoreau)

#### LONG-LEAVED STITCHWORT

Pratt simply notes this on the borders of the brooklet leading from the spring on Fairhaven Hill. Hosmer lists this without comment, but his herbarium specimen labeled as this is Stellaria graminea. Eaton lists this in an appendix as very unlikely in Concord in spite of his own collection of it in Concord. Specimens in Thoreau herbarium without date or locality under the name Stellaria longifolia appear to be this species except for one. There are about nine references to Stellaria longifolia in Thoreau's *Journal* which could include Stellaria graminea. Voucher specimen in BEDF collected by Eaton on July 12, 1958 in springy ground of a riverbank. Image not available.

STELLARIA MEDIA (GM8: same; TH: same)

### COMMON CHICKWEED

Pratt simply notes habitat. Hosmer says this is very common. Eaton calls it abundant. Specimens in Thoreau herbarium without date or locality. There are about 36 references to this in Thoreau's *Journal*. Jarvis notes this in meadow opposite Edmund Hosmer [now Crosby

Pond]. Voucher specimen in NEBC collected by Hosmer without date or locale within Concord given. <u>Link to image</u>.

# **Celastraceae** (GM8: same; TH: same)

CELASTRUS ORBICULATUS (GM8: same; TH: not treated in the manuals used by Thoreau) ASIAN BITTERSWEET

Pratt, Hosmer and Eaton do not list this. No specimen in Thoreau herbarium or reference to this in his Journal. Laurence E. Richardson collected this on June 1, 1960 at the entrance to his property from Barrett's Mill Road (BEDF specimen). This Asian species had already largely (if not entirely) replaced the native Celastrus scandens in Concord and much of eastern Massachusetts by the 1970s. It is very common now if not abundant. Being misled by the similarity in foliage to the native species, Eaton (and this author, relying on Eaton's Flora for this author's Concord Area Shrubs in 1978) listed the native species as frequent and did not note this Asian species even as a possibility in Concord. In fact the native species was already rare or extinct in Concord by 1974 when Eaton's Flora was published. The long-term presence of this species in Concord was confirmed to this author when in 1981 this author came across some venerable vines of this species that climbed up some large sycamore trees in an area east of the Thoreau mill site in the Estabrook Woods. At the base of these trees the thickness of the base of the vines was about that of an average man's thigh. These particular vines were likely introduced by a son of Minot Pratt who operated a nursery until the early 1900s near the Pratt home not far from this site (other introduced species also found in this southern area of the Estabrook Woods). Possibly all vines of this species in Concord derive from this old station. Voucher specimen in NEBC (and in BEDF) collected by this author on September 16, 1979 climbing on alders, etc. on the south side of Annursnack Hill in a thicket by a brook. Link to image.

Celastrus scandens (GM8: same; TH: same)

#### AMERICAN BITTERSWEET

Pratt simply notes its habitat and occurrence along the roadside near Edmund Hosmer's. Hosmer says it is common. Eaton calls it frequent. Specimen in Thoreau herbarium without date or locality. There are about 28 references to this Thoreau's *Journal*. Jarvis notes it near Captain Hunt's. Eaton collected this on May 30, 1956 at the lime quarry in Estabrook Woods (specimen missing). As noted in the entry for Celastrus orbiculatus above, Eaton's reference to this in 1974 as "frequent" is based on the occurrence of *C.* orbiculatus rather than *C.* scandens, which by that time was rare or possibly extinct. Voucher specimen in NEBC collected by Edward Hoar in September 1857 at Lee's Hill. Link to image.

EUONYMUS ALATUS (GM8: same; TH: not treated in the manuals used by Thoreau) WINGED EUONYMUS

Pratt and Hosmer do not list this. Eaton says this is occasional. No specimen in Thoreau herbarium or reference to this in his *Journal*. Eaton collected this on July 7, 1964 on a turfy ledge off Garfield Road west of Esther Anderson's residence at 262 Garfield Road (NEBC specimen). In 2021 Cherrie Corey reported that this infrequent in the town. Voucher specimen in NEBC collected by Eaton and Laurence E. Richardson on June 6, 1964 at Annursnack Hill on the southeastern side near the summit at edge of woods near an old pasture. Link to image.

EUONYMUS EUROPAEUS (GM8: same; TH: not treated in the manuals used by Thoreau) EUROPEAN SPINDI E-TREE

Pratt and Hosmer do not list this. Eaton says this is rare. No specimen in Thoreau herbarium or reference to this in his *Journal*. Cherrie Corey reported (2014) 6-10 good-sized shrubs of this naturalized on Shadyside Lane and some also at Great Meadows. Voucher specimen in NEBC collected by Elma P. Logemann on July 29, 1971 in a meadow near culvert under Heath's Bridge Road. Link to image.

EUONYMUS FORTUNEI var. RADICANS (GM8: same, except for variety; TH: not scientifically described until 1863)

#### WINTER-CREEPER

Introduced to the US about 1865. Pratt, Hosmer and Eaton do not list this. Cole Winstanley found three colonies of this with plants in various stages spreading well in a thicket on a road from Westford Road west of it on an overgrown house lot never built upon, photographed Aug. 29, 2015. Additional colonies were found by Cole Winstanley in October of 2015 along Lowell Road next to Macone Pond, along Sudbury Road ½ mile north of the bridge over the Sudbury River, and along Strawberry Hill Road near the trail to the Bemis Cliffs. Voucher specimen to be collected, but photograph accepted until then. See Appendix G.

# **Ceratophyllaceae** (GM8: same; TH: same)

Ceratophyllum demersum (GM8: same; TH: same)

COONTAIL

Pratt and Hosmer do not list this. Eaton says this is common. Specimen in Thoreau herbarium without date or locality. There are about six references to this in Thoreau's *Journal*. His reference on August 16, 1854 to Ceratophyllum echinatim is more likely to be C. demersum since the former has not been confirmed in Concord and is much less common in eastern Massachusetts. Eaton collected this on August 3, 1957 in shallow water in impoundment at Great Meadows (BEDF specimen). Laurence E. Richardson collected this on September 3, 1968 in Warner's Pond (VT specimen). C.B. Hellquist collected this on September 7, 1971 in the Sudbury River near Route 2, and on October 5, 1971 in the Assabet River near the junction with the Concord and Sudbury Rivers [i. e., near Egg Rock] (MASS specimens). Voucher specimen in GH collected by G.B. Rossbach on June 4, 1932 in the Concord River near Concord village. Link to image.

#### **Cistaceae** (GM8: same: TH: same)

Crocanthemum bicknellii (GM8: Helianthemum bicknellii; TH: not scientifically described until 1919, would be have been included in Helianthemum canadense in Thoreau's time)

HOARY FROSTWEED

Pratt and Hosmer do not list this. Eaton calls it frequent. A specimen in Thoreau herbarium collected on September 1, 1856 identified by Walter Kittredge and associated with a *Journal* entry of this date was in Lincoln, MA. There are about 32 references to Helianthemum canadense in Thoreau's *Journal* some of which are certainly to Crocanthemum bicknellii. Voucher specimen in NEBC collected by Edward Hoar on September 9, 1858 with no locale within Concord given. Link to image.

Crocanthemum canadense (GM8: Helianthemum canadense; TH: Helianthemum canadense) Pratt, Hosmer and Eaton say this is common. Multiple specimens in Thoreau herbarium without date or locality, one dated simply July 28. There are about 32 references to this in

Thoreau's Journal some of which are certainly to Crocanthemum bicknellii. Eaton collected this on October 9, 1921 in gravelly scrub oak barrens northeast of Goose Pond (BEDF specimen). Bryan A. Connelly collected this on June 16, 2011 in a sandy opening on Brister's Hill (CONN specimen). Voucher specimen in NEBC collected by Emile F. Williams on September 27, 1896 in open woods. Link to image.

Lechea intermedia var. intermedia (GM8: same; TH: not scientifically described until 1894, would have been included under "Lechea minor" or "Lechea thymifolia" in Thoreau's time) Pratt (as "Lechea minor") merely describes habitat. Hosmer (as "Lechea minor" and "Lechea thymifolia") and Eaton call it common. "Lechea minor" of Thoreau, Pratt and Hosmer's time translates into the modern Lechea intermedia. "Lechea thymifolia" of Thoreau, Pratt and Hosmer's time translates literally to the modern concept of Lechea minor which has never been collected in Middlesex County, MA. It is evident that both "Lechea minor" and "Lechea thymifolia" as used by Thoreau, Pratt and Hosmer refer to Lechea intermedia. A specimen in Thoreau herbarium without locality labeled as "Lechea thymifolia" collected on July 30, 1856 when Thoreau was in Concord has been identified as Lechea intermedia by Walter Kittredge. A lengthy unpublished passage in Thoreau's Journal entry for July 30, 1856 discusses five Lecheas he had found and pressed without naming them. There are possibly 10 references to this in Thoreau's Journal. Eaton collected this on October 9, 1921 in a dry pond hole northeast of Goose Pond along Sandy Pond Road (BEDF specimen). A.R. Hodgdon collected this on October 23, 1932 in open pine woods at Walden Pond near site of Thoreau's cabin (GH specimen). Voucher specimen in NEBC collected by Edward Hoar in September 1857 at [Fairhaven] Cliffs. Link to image.

Lechea maritima var. maritima (GM8: same; TH: not scientifically described until 1881, would have been included under "Lechea minor" in Thoreau's and Pratt's time)

BEACH PINWEED

Hosmer does not list this. Eaton calls it frequent. A specimen in Thoreau's herbarium in Thoreau's herbarium without locality collected on July 30, 1856 when Thoreau was in Concord has been identified as this by Walter Kittredge. A lengthy unpublished passage in Thoreau's *Journal* entry for July 30, 1856 discusses five Lecheas he had found and pressed without naming them. Three other specimens of Thoreau without date or locality have also been identified by Walter Kittredge as this species, as well as a fourth not from Concord.. There are possibly nine references to this in Thoreau's *Journal*. A.R. Hodgdon collected this on April 19, 1933 on a grassy slope in a sandy region west of Walden Pond (GH specimen). Voucher specimen in NEBC collected by Edward Hoar in September 1857 at [Fairhaven] Cliffs with the comment "Thoreau says it is undescribed." [and Thoreau was correct!] Link to image.

Lechea mucronata (GM8: Lechea villosa; TH: Lechea major, Lechea villosa)

Pratt, Hosmer and Eaton say this is common. Two specimens in Thoreau's herbarium in Thoreau's herbarium without locality collected on July 30, 1856 when Thoreau was in Concord have been identified as this by Walter Kittredge. A lengthy unpublished passage in Thoreau's *Journal* entry for July 30, 1856 discusses five Lecheas he had found and pressed without naming them. Three other specimens of Thoreau without date or locality have been identified as this species by Walter Kittredge. There are about 12 references to this in Thoreau's *Journal*. Walter Deane collected this on October 9, 1886 in open ground on Poplar Hill (NEBC specimen). Eaton collected this on October 9, 1921 on gravel in open, oak woods northeast of Goose Pond (BEDF specimen). A.R. Hodgdon collected this on November 11,

1932 in semi-shade in pine woods at Walden Pond (GH specimen). Voucher specimen in NEBC collected by Edward Hoar in September 1857 at [Fairhaven] Cliffs. Link to image. Lechea tenuifolia (GM8: same; TH: not treated in the manuals used by Thoreau and Pratt, would likely have been included by Thoreau and Pratt under "Lechea minor") Hosmer does not list this. Eaton says this is frequent. A specimen in Thoreau's herbarium without date or locality has been identified as this by Walter Kittredge, as well as a specimen collected on July 30, 1856 when Thoreau was in Concord. There might be up to three references to this in Thoreau's *Journal* under the name Lechea minor. Eaton collected this on August 29, 1938 in dry, sandy soil along railroad tracks east of Filter Beds (NEBC specimen), and on September 17, 1961 in dry, clear sand at Dugan's Desert along Old Marlboro Road (BEDF specimen). Voucher specimen in NEBC collected by Edward Hoar in September 1857 at [Fairhaven] Cliffs. Link to image.

**Cleomaceae** (GM8: Capparidaceae; TH: Capparidaceae)

TARENAYA HASSLERIANA (GM8: Cleome spinosa misapplied; TH: not treated in the manuals used by Thoreau)

PINK-QUEEN

Pratt and Hosmer do not list this. Eaton in unpublished notes refers to it as occasional. No specimen in Thoreau herbarium. Voucher specimen in NEBC collected by Eaton on October 4, 1959 at an abandoned dump on Laws Brook Road. Link to image.

**Clethraceae** (GM8: same; TH: Ericaceae (in part))

Clethra alnifolia (GM8: same: TH: same)

SWEET PEPPERBUSH

Pratt simply describes habitat. Hosmer and Pratt say this is common. Eaton says it is common, often abundant. Specimen in Thoreau herbarium without date or locality. There are about 32 references to this in Thoreau's *Journal*. Eaton found this on August 7, 1932 on a wooded pond shore of Goose Pond. William D. Countryman and Laurence E. Richardson collected this on September 11, 1965 along the banks of the Assabet River where common (VT specimen). K. Shea and B. Blair collected this on August 16, 1977 in damp forest at the Great Meadows National Wildlife Refuge (MASS specimen). L. Bohs collected this on October 3, 1981 on the margin of a pond in the Estabrook Woods where abundant (specimen in ECON at Harvard University Herbaria). Voucher specimen in NEBC collected by Eaton on July 13, 1935 in a swamp in the Town Forest. Link to image.

#### **Convolvulaceae** (GM8: same: TH: same)

CALYSTEGIA PUBESCENS (GM8: Convolvulus pellitus - misapplied; TH: not treated in the manuals used by Thoreau)

Pratt and Hosmer do not list this. Eaton says this is a rare escape from cultivation. No specimen in Thoreau herbarium or reference to this in his *Journal*. Voucher specimen in NEBC collected by L.L. Dame and W.H. Manning on June 22, 1884 with no locale within Concord given. <u>Link to image</u>.

Calystegia sepium subsp. americana (GM8: Convolvulus sepium; TH: Calystegia sepium (typical), Convolvulus sepium)

# WILD MORNING-GLORY

Pratt simply notes it south of Punkatasset Hill. Hosmer says it is common. Eaton calls it frequent. Specimen in Thoreau herbarium collected opposite Prescott's [likely George Prescott (1829-1864) of Concord], another without date or locality and one not from Concord. There are about six references to this in Thoreau's *Journal*. Jarvis notes it at roadside toward Hunt's bridge on July 18, 1834 and collected it on June 21, 1835 by or near Garrison's (MASS specimen). Voucher specimen in NEBC collected by Eaton on July 4, 1920 in grassy meadow at the Concord Country Club. Link to image.

CONVOLVULUS ARVENSIS (GM8: same; TH: same)

#### FIELD BINDWEED

Pratt merely states this is introduced. Hosmer lists it without comment. Eaton says it is uncommon. No specimen in Thoreau herbarium from Concord. The single reference in Thoreau's *Journal* refers to a Plymouth, MA occurrence from where his herbarium specimen was collected. Voucher specimen in NEBC collected by Eaton on July 9, 1961 in dry, sandy soil in a neglected field at the south end of Ball's Hill Road. Link to image.

Cuscuta compacta var. compacta (GM8: same; TH: same)

Pratt and Hosmer do not list this. Eaton says this is rare. No specimen in Thoreau herbarium or reference to this in his *Journal*. Eaton collected this on August 20, 1959 at Brook Meadow (BEDF specimen). Voucher specimen in NEBC collected by Eaton on September 15, 1928 parasitic on Cephalanthus occidentalis at the shore of Goose Pond on his wood lot. <u>Link to image</u>.

Cuscuta gronovii var. gronovii (GM8: same, including var. latiflora; TH: same, Cuscuta americana)

# COMMON DODDER

Pratt simply notes this near the Bridge [probably Flint's] on Monument Street. Hosmer and Eaton say this is common. Specimen in Thoreau herbarium without date or locality. There are about 15 references to this in Thoreau's *Journal*. Edward Hoar collected this on August 15, 1858 on the river bank [Sudbury River] at the foot of his garden (NEBC specimen). Laurence E. Richardson collected this ca. 1959 at the edge of Bateman's Pond (BEDF specimen). Voucher specimen in NEBC collected by Eaton on July 1, 1957 parasitic on Cephalanthus, Polygonum, etc. in a swampy meadow north of Martha's Point. Link to image.

Cuscuta polygonorum (GM8: same; TH: Cuscuta chlorocarpa) SMARTWEED DODDER

Pratt and Hosmer do not list this. Eaton says this is very rare [only 5 other counties where it has been found in New England]. No specimen in Thoreau herbarium or reference to this in his *Journal*. Eaton collected this on July 23, 1949 on a muddy shore of Little Goose Pond (NEBC and GH specimens). In October 2015 Cole Winstanley relocated Eaton's station of this at Goose Pond with some very late flowers growing vigorously on the north side of the western peninsula into the pond, parasitic almost exclusively on Solidago spp. Voucher specimen in NEBC collected by Eaton on August 15, 1930 on a muddy shore in the vicinity of Goose Pond, first recorded station in New England. Link to image.

**Cornaceae** (GM8: same: TH: same (in part)) Cornus alternifolia (GM8: same: TH: same) PAGODA DOGWOOD

Pratt says this is rather common. Hosmer calls it common. Eaton says it is frequent. Specimen in Thoreau herbarium without date or locality. There are about 26 references to this in Thoreau's Journal. Jarvis notes this on June 12, 1835 in swamp near Sleepy Hollow, probably Moore's Swamp. S. Boson collected this on May 25, 1929 at Walden Pond (GH specimen). Laurence E. Richardson collected this on June 13, 1960 on the north side of Annursnack Hill (BEDF specimen). The gradual decline in frequency from Pratt to Eaton suggests decline due to reforestation since this species prefers dry thickets or woodland borders. In June 2014 Cherrie Corey found several of these in blossom across the road from the Annursnack Hill pond. Voucher specimen in NEBC collected by Eaton on June 22, 1935 in low ground at the edge of woods in the Town Forest where he notes it as common. Link to image.

Cornus amomum (GM8: same; TH: Cornus sericea (in part)) SILKY DOGWOOD

Pratt notes only one locality for Cornus sericea, near Flint's Bridge on Monument Street, which could be either Cornus amomum or Cornus obliqua. If Eaton's frequency information is accepted, Pratt's locality is more likely Cornus amomum. Hosmer does not list this and fails to provide any flowering date for it in his copy of Gray's Manual of Botany (at NEBC) as he does for the other Cornus species. Eaton says this is common. Specimen in Thoreau herbarium without date or locality. There are about 52 references to this in Thoreau's *Iournal*, but some fraction of these are likely to be Cornus obliqua. Eaton collected this on August 23, 1957 on a hillside pasture of Annursnack Hill (BEDF specimen). Voucher specimen in NEBC collected by Eaton on August 15, 1930 in dry scrub woods on his wood lot near Goose Pond. Link to image.

Cornus canadensis (GM8: same; TH: same) BUNCHBERRY

Pratt says this is common, though seldom fruiting. Hosmer calls it common. Eaton says it is frequent. Specimen in Thoreau herbarium without date or locality. There are about 33 references to this in Thoreau's *Journal*. Cole Winstanley found a colony of this in 2014 just north of the Circle Trail in the Estabrook Woods spanning the Carlisle line. In Aug. 2015 Cole Winstanley found a small group of this along a trail near a sinkhole about halfway between Newbury Field and Strawberry Hill Road. In 201 Cherrie Corey reported that this had become uncommon in the town. Voucher specimen in NEBC collected by Edward Hoar on June 28, 1858 with no locale within Concord given. Link to image.

Cornus florida (GM8: same; TH: same) FLOWERING DOGWOOD

Pratt says this is rare, noting a few trees at the junction of the Assabet and Sudbury [Rivers] and one or two [trees] near Bateman's Pond. Hosmer only notes this in Acton, not in Concord. Eaton calls it rare. Specimen in Thoreau herbarium without date or locality. There are about 40 references to this in Thoreau's Journal. On April 14, 1852 he questions whether he sees it at Howard's Meadow dam. His reference to this on May 23, 1853 when he visits the Island [Egg Rock] is likely to the same few trees noted by Pratt. On August 30, 1854 he relates that Pratt tells him of this at Bateman's Pond. On May 18, 1857 in the company of Pratt Thoreau refers to a large tree of this on the further side of the ravine near Bateman's Pond and another tree by some beeches on the rocky hillside a quarter mile to the northeast. In spite of the numerous references in Thoreau's Journal to this, there is no

evidence that he saw it wild in Concord other than the few trees at Egg Rock and near Bateman's Pond. Eaton collected this on May 31, 1958 in dry, rocky, deciduous woods in the diorite belt by Garfield Road, a single tall specimen, and on September 17, 1961 near the east branch of Second Division Brook and near the Sudbury line (NEBC specimens and latter also in BEDF). On May 9, 1982 this author saw this in the Ball's Hill area. This author also saw this in woods on the north or northeastern side of Nashawtuc Hill which is in the general vicinity of Egg Rock. In 2014 Cherrie Corey found a single tree in Wright Woods and Cole Winstanley reported to her of another single tree found in the Estabrook Woods in the vicinity of the boulder field across from the Estabrook cellar hole. In June 2016 Cole Winstanley found a single tree and a handful of saplings of this among Ostrya trees on the slope in the area bounded by the Sudbury town line, Old Pickard Road and railroad tracks [possibly Eaton's 1961 locality]. On June 25, 2016 Cole Winstanley found some of this at Thoreau's Sugar Maple Grove, probably related to the one collected by Eaton in 1958. Voucher specimen in NEBC collected by Eaton on May 15, 1955 in open, rocky deciduous woods on a slope near a granitic outcrop in the Chamberlin Woods opposite the old Worthley Farm [1227 Lowell Road], a dozen or more old sprouts from much older stumps [one of the stations of Pratt and Thoreau]. Link to image.

Cornus obliqua (GM8: same; TH: Cornus sericea (in part)) PALE DOGWOOD

Pratt notes only the one locality for Cornus sericea, near Flint's Bridge on Monument Street, which could be either Cornus obliqua or Cornus amomum. If Eaton's frequency information is accepted, this station is more likely Cornus amomum. Hosmer does not list this (see note with respect to him for Cornus amomum which applies here also). Eaton says this is uncommon. No specimen in Thoreau herbarium has been identified as this species. Some fraction of the references to Cornus sericea are likely to be to this species. Voucher specimen in BEDF collected Laurence E. Richardson on July 1 and August 27, 1965. Image not available.

Cornus racemosa (GM8: same: TH: Cornus paniculata)

**GRAY DOGWOOD** 

Pratt, Hosmer and Eaton say this is common. Specimen in Thoreau herbarium without date or locality. There are about 28 references to this in Thoreau's *Journal*. Eaton collected this [as Cornus obliqua in error on June 29, 1958 in a moist alluvial thicket near the mouth of Spencer Brook [at the Assabet River] (NEBC specimen). Voucher specimen in NEBC collected by Eaton in June 1935 in a dry, argillaceous thicket in the Town Forest. Link to image.

Cornus rugosa (GM8: same; TH: Cornus circinata)

ROUND-LEAVED DOGWOOD

Pratt says this common and notes it on a rough ledge a little south of Bateman's Pond. Hosmer also calls it common. Eaton says it is infrequent. Specimen in Thoreau herbarium without date or locality. There are about 20 references to this in Thoreau's herbarium. Eaton collected this on July 1, 1957 on cliff talus at Conantum near the station for Slippery Elm (BEDF specimen). This author found this beneath Lee's Cliff (May 25, 1980), atop the ridge on the north side of Walden Pond (May 9, 1981), along Azalea Brook in the area of the Rhododendron prinophyllum (July 24, 1981, well underway or going by), in a hollow at the end of a Hemlock ridge overlooking the Yellow Birch in the town forest (May 12, 1979, in flower), and in the Estabrook Woods. Cherrie Corey found several plants on a steep, northfacing bank along a roadside drainage on Annursnac Hill Road in 2014. Voucher specimen in NEBC collected by Horace Mann, Jr. in 1862 with no locale within Concord given. Link to image.

Cornus sericea (GM8: Cornus stolonifera; TH: same, Cornus stolonifera) RED-OSIER DOGWOOD

Pratt merely notes the habitat. Hosmer lists it without comment. Eaton says it is infrequent, but occasionally abundant. No specimen from Concord in Thoreau's herbarium (one labeled by Thoreau as this without data has been identified as Cornus amomum). There are about 30 references to this in Thoreau's *Journal*. Eaton collected this on October 6, 1958 in flower at fence rows at the foot of Nashawtuc Hill on the east side (NEBC specimen), but the specimen being in flower at such a late date suggests that the specimen is mismatched with his label. This author saw a particular stand of it by the Sudbury River where Rte. 2 crosses the river beneath the Emerson Hospital parking lot (Clamshell Hill site). Voucher specimen in NEBC collected by G.G. Kennedy on May 26, 1913 on railroad bank near bridge. Link to image.

**Crassulaceae** (GM8: same; TH: same (in part))

HYLOTELEPHIUM TELEPHIUM (GM8: Sedum purpureum; TH: Sedum telephium) WITCHES' MONEYBAGS

Pratt mentions habitat and notes it at grave-yard near Dr. Barrett's. Hosmer and Eaton say it is common. Specimen in Thoreau herbarium without date or locality. There are about nine references (one in error) to this in Thoreau's *Journal*. On July 30, 1852 he refers to it at Tuttle's sluice. This location is the only one Thoreau refers to specifically in his *Journal* for this species. Voucher specimen in NEBC collected by Eaton on May 28, 1961 in moist, deciduous woods near the Concord River southwest [probably south] of Punkatasset Hill. Link to image.

SEMPERVIVUM TECTORUM (GM8: same; TH: same)

**HENS-AND-CHICKENS** 

Pratt notes finding this many years ago growing on a rock in the form of a ball about a foot in diameter on the farm then occupied by J.B. Farmer. He then describes seeing it on rocks near Cyrus Clark's. Hosmer says it is not very common, noting it near Estabrook Road [see Thoreau May 8, 1855 reference below] and in another town. Eaton does not list this. Specimen in Thoreau herbarium without date or locality. There are about 14 references to this in Thoreau's Journal. On December 18, 1852 on his way to or at Annursnack Hill he refers to it on a rock between Cox's and Heywood's. On May 8, 1853 he notes it on the rock in Jesse Hosmer's farm at Annursnack Hill. On June 2, 1854 he records collecting some of this at the Annursnack Hill location, and on March 8, 1855 seeing a cluster of large buds of this on a rock in a meadow between an oak and his old Walden Pond cabin [that had been moved to what is now the property at the end of Estabrook Road]. Thoreau's specimen in GH is accepted as the voucher for this in Concord. Link to image.

**Cucurbitaceae** (GM8: same; same)

ECHINOCYSTIS LOBATA (GM8: same: TH: same)

WILD CUCUMBER

Pratt simply says this is introduced, his copy of Gray's *Manual of Botany* indicating from Jackson, NH. Hosmer merely lists it at a dump. Eaton calls it frequent, especially along the Concord River. No specimen in Thoreau herbarium or reference to this in his *Journal*. K. Shea and E. Blair collected this on August 16, 1977 in thickets around a deep marsh area at Great Meadows National Wildlife Refuge (CONN specimen). Voucher specimen in NEBC

collected by Eaton on September 5, 1957 in low, rich ground of a roadside thicket at Angier's Mill. Link to image.

Sicyos angulatus (GM8: same; TH: same)

BUR CUCUMBER

Pratt simply notes this at roadside on Walden Street and behind the grave-yard near Dr. Barrett's. Hosmer refers to this only at a dump. Eaton says this is uncommon, but abundant at one site. Specimen in Thoreau herbarium without date or locality. There are about five references to this in Thoreau's *Journal* none of which are clearly to wild occurrence in Concord. Eaton collected this on October 10, 1957 abundant on shrubs, etc. at edge of swamp near dump along north boundary of Sleepy Hollow Cemetery (NEBC specimen). Voucher specimen in NEBC collected by Emile F. Williams on September 20, 1896 on hedge on Lowell Road. Link to image.

# **Droseraceae** (GM8: same; TH: same)

Drosera intermedia (GM8: same; TH: Drosera longifolia)

Pratt, Hosmer and Eaton say this is common. Specimens in Thoreau herbarium without data or locality. There are about five references to this in Thoreau's *Journal*. C.C. Field collected this on July 29, 1834 west of Dr. Ripley's bridge [Flint's Bridge] (MASS specimen). Eaton collected this on July 28, 1920 on damp mud in swamp opposite [west of] Ledum Bog at Old Road to Nine Acre Corner (NEBC and BEDF specimens). In 2015 Cole Winstanley photographed this on the shore of a sandy, boggy pond at Macone Farm Lane and also on the small island in Goose Pond. In June 2016 he photographed it in a small bog across the railroad tracks from Heywood's Meadow. Voucher specimen in NEBC collected by Edward Hoar in August 1879 in bog at foot of Conantum Cliff. Link to image.

Drosera rotundifolia (GM8: same; TH: same)

# **ROUND-LEAVED SUNDEW**

Pratt and Eaton say this is common. Hosmer simply gives Quarry Swamp as the only locality. Specimens in Thoreau herbarium without data or locality. There are about eight references to this in Thoreau's Journal. Jarvis collected this on August 18, 1835 near F. Jarvis (MASS specimen). David Potter collected this on July 25, 1925 at Sam Hoar's Pond [Fairyland Pond at Town Forest] (GH specimen). Eaton collected this on September 18, 1925 on a shore of Goose Pond on his woodlot property (BEDF specimen). This author saw this in the late 1970s and early 1980s in a number of sphagnous places including the Heywood's Meadow and in Gowing's Swamp. Voucher specimen in NEBC collected by Eaton July 4, 1920 in wet sphagnous peat near brook [Jenny Dugan Brook] on the east side of the 8<sup>th</sup> hole at the Concord Country Club. Link to image.

# **Elaeagnaceae** (GM8: same; TH: same)

ELAEAGNUS UMBELLATA var. PARVIFLORA (GM8: Elaeagnus umbellata; TH: not treated in the manuals used by Thoreau)

**AUTUMN OLIVE** 

Pratt and Hosmer do not list this. Eaton only includes this in an appendix as unlikely in Concord, noting that it had been found in Lincoln, MA in a thicket. No specimen in Thoreau herbarium or reference to this in his *Journal*. Voucher specimen in NEBC (and in BEDF) collected by this author on May 11, 1981 in flower in the Ruggerio waste area in West Concord, about a dozen or so shrubs. Link to image.

# **Elatinaceae** (GM8: same: TH: same)

Elatine minima (GM8: same; TH: same, Elatine americana misapplied)

Pratt and Hosmer do not list this. Eaton says it is rare. No specimen in Thoreau herbarium. There are just three references to this in Thoreau's *Journal*. On August 27, 1852 he refers to it in Walden Pond. On July 11, 1853 he mentions it in fruit, apparently near the Assabet Bathing-place. On June 30, 1854 he notes it in flower at Callitriche Pool. Voucher specimen in NEBC collected by C.W. Swan and C.W. Jenks on July 24, 1890 in Walden Pond. Link to image.

**Ericaceae** (GM8: Ericaceae + Pyrolaceae; TH: Ericaceae (in part) + Pyrolaceae)

Andromeda polifolia var. latifolia (GM8: Andromeda glaucophylla; TH: Andromeda polifolia) BOG ROSEMARY

Pratt says this is rare, found in two or three wet bogs, chiefly in one back of E.W. Bull's [Gowing's Swamp]. Hosmer simply notes it at Heath [Ledum Swamp] and Gowing's Swamps. Eaton says it is rare and local, at two stations [Gowing's Swamp and Ledum Swamp]. Specimens in Thoreau herbarium without date or locality. There are about 35 references to this in Thoreau's Journal. On July 14, 1853 he records finding it recently out of bloom in the middle of the north end of Beck Stow's Swamp, the first time he mentions this plant in his Journal. On February 17, 1854 he records finding it at Gowing's Swamp. On November 15, 1857 he notes finding it at the swamp [Ledum Swamp] in front of C.[harles] Miles house. On February 12, 1858 he remarks that there is apparently more of this plant at Ledum Swamp than anywhere else in Concord. Eaton collected this on June 4, 1920 in the sphagnum bog ¼ mile northwest of Meriam's Corner [Gowing's Swamp] (NEBC specimen). This author found this only in Gowing's Swamp, though this author looked for it in the other Concord bogs, including the ruined Ledum Swamp. Dr. Harold Hemond of MIT reports (2014) that he has seen this still in Gowing's Swamp within the past few years. Voucher specimen in NEBC collected by Eaton on May 21. 1922 in shallow water at the margin of small pond on the Harry Keefe Farm [Ledum Swamp]. Link to image.

Arctostaphylos uva-ursi (GM8: same; TH: same, Arbutus uva-ursi) COMMON BEARBERRY

Pratt says this is abundant in open woods in the Southwest quarter of the town, and not rare elsewhere. Hosmer only notes it at Cliffs [Fairhaven] and Old Marlborough Road. Eaton calls it rare, noting that it persisted at Fairhaven Cliffs in 1972. Specimens in Thoreau herbarium without date or locality. There are about 32 references to this in Thoreau's *Journal*. Laurence E. Richardson collected this on May 6, 1960 at the Fairhaven Cliffs (BEDF specimen). This author found it on August 30, 1978 in a small bed of this along the sandy path in a small opening near the east entrance to the Old Rifle Range which is near the Old Marlborough Road. This colony seems to have become shaded out or collected out of existence. On April 29, 1979 this author found it in blossom near the top of Fairhaven Cliffs. Voucher specimen in NEBC collected by Edward Hoar on May 8, 1858 at the [Fairhaven] Cliffs. Link to image.

Chamaedaphne calyculata (GM8: same, including var. angustifolia; TH: Andromeda calyculata, Cassandra calyculata)

# LEATHERLEAF

Pratt simply says this abounds in bogs. Hosmer calls it very common. Eaton says it is common. Specimens in Thoreau herbarium without date or locality. There are about 160 references to this in Thoreau's *Journal*. Eaton collected this on December 18, 1920 at Ledum

Swamp (BEDF specimen). Laurence E. Richardson collected this on May 3, 1960 at the dam at Angier's Mill (BEDF specimen). Eaton and his son, Jefferson T. Eaton collected this on December 18, 1967 at the edge of a dry, sandy path in sunny, open Pinus strobus and oak woods bordering the sphagnum bog southeast of Walden Pond [Heywood's Meadow] (NEBC specimen). Mary M. Walker collected this on May 14, 1975 at Gowing's Swamp (BEDF specimen). Voucher specimen in NEBC collected by Edward Hoar on April 24, 1858 with no locale within Concord given. Link to image.

Chimaphila maculata (GM8: same; TH: same, Pyrola maculata) SPOTTED WINTERGREEN

Pratt relates the following -- "A few plants formerly grew in the woods near Goose Pond, but they have now disappeared; Miss Weir informs me that she lately (1877) found it growing in A.P. Chamberlain's grounds." Hosmer says it is rare and notes it at the Lime Kiln and Hurd's woods. Eaton calls it occasional. Specimen in Thoreau herbarium from Goose Pond. There are about nine references to this in Thoreau's *Journal*. Cole Winstanley reported (2015) having seen more than 55 stations of this, now much more common than Chimaphila umbellata. Voucher specimen in NEBC (and in BEDF) collected by Eaton on July 1, 1959 in dry, deciduous woods on the north side of Annursnack Hill near the summit, scattered plants. Link to image.

Chimaphila umbellata subsp. umbellata (GM8: same; TH: same, Pyrola umbellata) PIPSISSEWA

Pratt, Hosmer and Eaton say this is common. Specimens in Thoreau herbarium without date or locality. There are about 25 references to this in Thoreau's *Journal*. Laurence E. Richardson collected this on July 4, 1960 at the Old Rifle Range near Harrington Avenue (BEDF specimen). Robert A. Bye collected this on May 7, 1972 in young secondary woods at a trail junction in the Estabrook Woods southeast of Mink Pond (BEDF specimen). Lynn Maguire and Phil Nelson collected this on July 15, 1972 in the corner of Spruce Trail and Hutchins Pond Trail near Turtle Pond in the Estabrook Woods (BEDF specimen). Voucher specimen in NEBC collected by Eaton on July 19, 1920 in dry, oak woods along Estabrook Road. Link to image.

Epigaea repens (GM8: same; TH: same) TRAILING ARBUTUS

Pratt says this is chiefly in dry woods in West Concord. Hosmer simply notes this at Warner's Brook and Westvale. Eaton says this is rare, now (1974) known from a single station (the site where this author found it off High Pine Circle noted further below). He states that the colonies in the vicinity of Goose Pond were introduced. In unpublished notes he says this formerly grew sparingly on a wooded hillside northeast of Warner's Pond. No specimen in Thoreau herbarium from Concord. There are about 52 references to this in Thoreau's Journal. On March 29, 1852 he mentions finding it in the Second Division Brook area. On February 7, 1858 he notes finding it on Fairhaven Hill at the northwest corner of C. Hubbard's (?) lot extending a rod or so. Laurence E. Richardson collected this on May 6, 1965 on a roadside bank with northern exposure, with Eaton noting this collection was along Powder Mill Road west of Second Division Brook, about 10 plants (NEBC specimen). This author found two patches of this on the banks of a deep-cut dirt road off High Pine Circle on October 11, 1978 and another patch in that general area the same day. On May 27, 1979 this author found one small patch of this on the south edge near a dump slide of what this author calls the Nuclear Metals Bog. Also, on June 7, 1979 this author found a good colony on the town line with Acton barely in Concord near Fort Pond Brook. The best colony this author found was on October 3, 1981 off the path along the west side of the

Musketaquid Pond between the path and pond. This author saw one of the introduced colonies along the path on the southeast side of Goose Pond (in bloom May 8, 1975). Voucher specimen in NEBC collected by Edward Hoar on May 3, 1959 near Marlboro Road. Link to image.

Eubotrys racemosa (GM8: Leucothoë racemosa; TH: Leucothoë racemosa, Andromeda racemosa)

#### SWAMP SWEETBELLS

Pratt does not list this. Hosmer says it is uncommon (in Concord vicinity). Eaton calls it rare, and not seen in recent years (1974). The note in his Flora that Thoreau found this at the Island [Egg Rock] on June 3, 1857 is incorrect. Thoreau refers to the bass[wood] at the Island [Eag Rock] that day on his way to White Cedar Swamp (where he found the Eubotrys) further up the Assabet River. Specimens in Thoreau herbarium without date or locality. There are about nine references to it in his *Journal*. On June 8, 1856 he refers it growing four or five rods from a knoll between two large red maple clumps in [White] Cedar Swamp near the Assabet River. All of Thoreau's references to this in Concord are to the colony at White Cedar Swamp. Jarvis's note of finding this on July 4, 1835 "Near cliffs" is puzzling since this is typically a plant of Chamaecyparis swamps or sphagnum bogs in the Concord area, and such habitat is not particularly near either the Fairhaven or Conantum Cliffs. This author found and collected this with Sarah Chapin on October 16, 1978 growing at the southern edge of a small bog (Boaz's Meadow) just east of Hugh Carghill Road, and collected it there on June 6, 1979 (flowers), January 1, 1980 and on June 9, 1982 (BEDF specimens). Voucher specimen in NEBC collected by Hosmer with no date or locale within Concord. Link to image.

Gaultheria hispidula (GM8: same; TH: Chiogenes hispidula) CREEPING SNOWBERRY

Pratt says of this -- A rare plant here. Found only in a small bog near Marshal Miles's [Ledum Swamp] and there so hidden among the spruces and other bushes that it is difficult to find. Hosmer notes this only by Old Marlborough Road [likely in the Chamaecyparis swamp by this road in Sudbury as there is no other suitable habitat along that road in Concord] and in the town of Acton, MA. Eaton lists this in an appendix as unlikely in Concord and dismisses the Thoreau specimen. Specimens in Thoreau herbarium without date or locality. There are about 10 references to this in Thoreau's *Journal*, none of which are to occurrences in Concord. His herbarium specimen then is likely to be either from his trip to Mt. Monadnock or to Mt. Washington in New Hampshire, as he notes finding it in both places. There is a specimen in Sophia Thoreau's herbarium collection (at The Thoreau Institute) without information, but it is most likely one brought or sent to her. This species is accepted in this flora based upon the very credible report of Pratt.

Gaultheria procumbens (GM8: same; TH: same)

# CHECKERBERRY

Pratt, Hosmer and Eaton say this is common. Specimens in Thoreau herbarium without date or locality. There are about 66 references to this in Thoreau's *Journal*. Robert A. Bye collected this on May 7, 1972 along the side of a wet depression north of the junction of the Main Trail and Mink Pond Trail in the Estabrook Woods (BEDF specimen). Cherrie Corey (2014) reported this still to be plentiful, found in most mixed hardwoods, robust in Moore's Swamp. Voucher specimen in NEBC collected by Laurence E. Richardson on July 16, 1964 in mixed pine and hardwoods near Harrington's Bog. Link to image.

Gaylussacia baccata (GM8: same; TH: Gaylussacia resinosa, Vaccinium resinosum) BLACK HUCKLEBERRY

Pratt implies this is common referring to it as the common huckleberry of the North and refers to a variety with greenish-white purple striped fruit at the foot of Punkatasset Hill. Hosmer says it is common. Eaton calls it common, often abundant. Two specimens in Thoreau herbarium without date or locality and two specimens with note that the red variety is behind Pratt's. The latter two specimens can be associated with his *Journal* entries for August 16, 1856 (leafy twig) and May 18, 1857 (flowering twig). There are about 22 references specifically to this in Thoreau's *Journal*, but most of his many references simply to "huckleberry" are likely also to this species. Eaton collected this on May 11, 1930 in open, oak woods on his woodlot near Goose Pond (BEDF specimen), and on July 2, 1960 in the interior margin of the floating sphagnum bog of Gowing's Swamp near Merriam's Corner (NEBC specimen). Voucher specimen in NEBC collected by Eaton on June 7, 1935 in woods in the Town Forest. Link to image.

Gaylussacia bigeloviana (GM8: Gaylussacia dumosa var. bigeloviana; TH: Gaylussacia dumosa, including var. hirtella, Vaccinium dumosum)

# BOG HUCKLEBERRY

Pratt and Hosmer do not list this. Eaton says it is rare, not seen in recent years (1974). Specimen without date in Thoreau herbarium is from Gowing's Swamp but which can be associated with his *Journal* entry for August 30, 1856. Another specimen is without date or locality. There are about 20 references to this in Thoreau's *Journal*. On August 30, 1856 while cranberrying at Beck Stow's Swamp he first finds this in Concord as bushes among the sphagnum, prompting him to marvel about the wildness in Concord -- "That wild hairy huckleberry, inedible as it was, was equal to a domain secured by me and reaching to the South Sea." On July 2, 1857 at Gowing's Swamp he describes it as commonly an inconspicuous bush 8 to 12 inches high, half prostrate over the sphagnum but sometimes 20 inches high quite on the edge of the swamp. On August 8, 1858 he describes this as perhaps the prevailing shrub at Ledum Swamp. On August 30, 1860 he reports finding this not in a swamp this while surveying Minot's land. C.C. Field collected this on June 25, 1835 southeast of the Poor House (MASS specimen). Laurence E. Richardson collected this on July 2, 1960 in the Powder Mill Road bog [White Pond Bog] (BEDF specimen). Voucher specimen in NEBC collected by Horace Mann, Jr. in 1862 with no locale within Concord given. Link to image.

Gaylussacia frondosa (GM8: same; TH: same)
DANGLEBERRY

Pratt says this is rare in Concord, noting it on the border of a small bog near the wood-road that leads to the back side of Bateman's Pond [apparently Boaz's Meadow]. Hosmer simply notes "Bateman's Pond et al." Eaton calls it occasional mentioning it as abundant at Gowing's Swamp. Specimens in Thoreau herbarium without date or locality. There are 18 references to this in Thoreau's *Journal*. On August 24, 1851 he notes this at Hubbard Swamp. On June 5, 1854 he mentions it being at the Trillium Woods. On August 19, 1856 he refers to them at Hubbard's Grove which is likely the same colony noted at Hubbard's Swamp. On August 11, 1858 he mentions it at Beck Stow's [Swamp]. On September 1, 1858 while visiting the Estabrook Woods area he notes the fruit ready for picking. Eaton collected this on August 28, 1921 in the border of the sphagnum bog of Meriam's Corner Bog [Gowing's Swamp] (BEDF specimen). Laurence E. Richardson collected this on July 1, 1960 and July 21, 1962 in the bog south of Heath Bridge Road [Kalmia Swamp] (BEDF specimen). This author found this on August 3, 1978 on the outskirts of a sphagnum bog in

the Ministerial Swamp. On August 22, 1978 this author found it in the Nuclear Metals Bog. Also, this author saw it on the northern edge of the sphagnum bog just south of Walden Pond [Heywood's Meadow], and perhaps one or two other places. Elizabeth H. Thompson collected this with Paul Somers and Jerry Jenkins on July 2, 1992 in a large swamp at the Minuteman National Park (VT specimen). Voucher specimen in NEBC collected by Edward Hoar on September 1, 1858 (possibly in the company of Thoreau who records it on that date in his *Journal*) with no locale within Concord given. Link to image.

Kalmia angustifolia var. angustifolia (GM8: same; TH: same) SHEEP LAUREL

Pratt, Hosmer and Eaton say this is common. Specimen in Thoreau herbarium without date or locality. There are about 64 references to this in Thoreau's *Journal*. Eaton collected this on December 18, 1921 in a swamp near the Ledum groenlandicum in Ledum Swamp near the Old Road to Nine Acre Corner (CONN specimen), on June 8, 1930 in dry, oak scrub of his woodlot at Goose Pond (BEDF specimen), and on June 7, 1935 in low woods in the Town Forest (NEBC specimen). Robert A. Bye collected this in sterile soil along the side of a wet depression north of the junction of the main Trail and Mink Pond Trail in the Estabrook Woods (CONN specimen). Voucher specimen in NEBC collected by Eaton on July 4, 1920 on a rich, peaty hillside in the rough along the 7<sup>th</sup> (now 17<sup>th</sup>) hole at Concord Country Club. Link to image.

Kalmia latifolia (GM8: same; TH: same)

MOUNTAIN LAUREL

Pratt says this is not abundant but scattered in all quarters of the town. Hosmer simply lists several locations for it -- Lime Kiln, Bateman's Pond, Gowing's Swamp, 9-acre Corner, and Mason Pasture. Eaton says it is infrequent, scattered plants or colonies, chiefly on or in the vicinity of the five hills [Fairhaven, Annursnack, Nashawtuc, Punkatasset and possibly Lee's or Ball's]. Specimen in Thoreau herbarium without date or locality. There are about 41 references to this in Thoreau's *Journal*. Jarvis notes this in lowland west of Colburn's woods. Eaton collected this on June 8, 1930 at Goose Pond (BEDF specimen). Among other places this author saw it in woods on the southeast side of Crosby Pond. Voucher specimen in NEBC collected by Eaton on May 25, 1956 on a rocky, wooded hillside on the west flank of Annursnack Hill. Link to image.

Kalmia polifolia (GM8: same; TH: Kalmia glauca)
BOG LAUREL

Pratt says this is rare, found only in a few cold bogs - one back of E.W. Bull's [Gowing's Swamp]. Hosmer simply lists this at Walden [Heywood's Meadow], Heath [Kalmia Swamp] and Gowing's Swamp. Eaton says this is occasional, at four stations [bog north of White Pond, Ledum Bog, beside Heath's Bridge Road in wooded boggy area {Kalmia Swamp}, and bog near Meriam's Corner {Gowing's Swamp}]. Specimens in Thoreau herbarium without date or locality and one not from Concord. There are about 38 references to this in Thoreau's *Journal*. On January 9, 1855 he notes finding this in Holden's spruce swamp [which he names Kalmia Swamp later that year]. On July 7, 1856 he mentions it at Gowing's Swamp. On August 30, 1856 he notes finding it at Beck Stow's Swamp. On November 8, 1857 he refers to it in the swamp [Ledum Swamp] in front of the C.[harles] Miles house. Eaton collected this on May 22, 1922 at the Harry Keefe farm [Ledum Swamp], and on October 27, 1927 in Hudson's Woods [probably Kalmia Swamp] (both BEDF specimens). James W. Hinds collected this on March 18, 1973 in Gowing's Swamp (CONN specimen). This author saw it on June 19, 1975 at Gowing's Swamp, on August 10, 1978 abundant in the bog just north of White Pond, on August 30, 1978 among the Labrador Tea in the Nuclear Metals

Bog, on May 17, 1979 apparently in Kalmia Swamp, and on July 4, 1979 in the west part of a small bog with Menyanthes on the other side (southwest) of the railroad tracks opposite Heywood's Meadow (confirmed still here in 2015 and in June 2016, with over 75 plants not in flower, by Cole Winstanley). In Aug. 2015 Cole Winstanley found a couple plants of this in the boggy swamp south of Laws Brook Road opposite the west end of Warner's pond. Voucher specimen in NEBC collected by Eaton on May 21, 1922 at the margin of a pool in sphagnum peat on the Harry Keefe Farm [Ledum Swamp]. Link to image.

Lyonia ligustrina var. ligustrina (GM8: same; TH: Lyonia paniculata, Andromeda ligustrina, Andromeda paniculata)

#### **MALEBERRY**

Pratt and Hosmer say this is common. Eaton calls it frequent. Specimen in Thoreau herbarium without date or locality. There are about 59 references to this in Thoreau's *Journal*. Jarvis collected this on July 1, 1835 at Nine Acre Corner where abundant (MASS specimen). Eaton collected this on July 4, 1920 at the Concord Country Club (BEDF specimen), and on July 13, 1935 in a swamp in the Town Forest (NEBC specimen). Laurence E. Richardson collected this on June 20, 1960 on the southeast side of Bateman's Pond (BEDF specimen). Voucher specimen in NEBC collected by Edward Hoar on July 4, 1857 near Percival Place. Link to image.

Moneses uniflora (GM8: same; TH: same, Pyrola uniflora) WOOD-NYMPH

Pratt does not list this. Hosmer simply lists four locations, the Concord ones being Bateman's Pond and Ripley Hill. Eaton says this is rare, formerly abundant on summit of Annursnack Hill now (1974) reduced to a small colony found in 1962 on east side of hill near summit, and a few plants in woods off Garfield Road. No specimen in Thoreau herbarium or reference to it in his *Journal*. Laurence E. Richardson collected this on June 19, 1960 on the north side of Annursnack Hill, apparently remnants of Eaton's station noted below as the voucher specimen (BEDF specimen). Eaton notes that a station on the east side of Annursnack Hill near the summit was discovered in 1962. Esther Howe Anderson and Eaton collected this on July 5, 1964 in low pine woods on her property west of her house on Garfield Road, about 12 plants (NEBC specimen). Voucher specimen in NEBC collected by Eaton on June 11, 1921 under Pinus strobus on north side of Annursnack Hill where abundant but mostly destroyed about 1940. Link to image.

Monotropa hypopitys (GM8: Monotropa hypopithys; TH: same, Hypopitys lanuginosa) PINESAP

Pratt says this is rare, noting that it is more abundant in Lincoln near Sandy Pond [Flint's Pond]. Hosmer says it is common [in the Concord vicinity]. Eaton calls it infrequent. Specimens in Thoreau herbarium without date from Hubbard's old wood, Saw Mill Brook wood, and one given to Edward Hoar from an unknown locale in Concord in August 1858 which can be associated with the *Journal* passage of August 13, 1858 noted below (NEBC specimen). There are about 16 references to this in Thoreau's *Journal*. On May 28, 1853 he notes it at the old bridge landing at Nashawtuc [Hill]. On July 29, 1853 he mentions finding it under the pines in Hubbard's Wood Path and some near the fence east of the [Hubbard] Close. On August 14, 1856 he notes finding it at Saw Mill Brook on his way to Flint's Pond, but this station is almost certainly in Lincoln, MA as Pratt notes. On October 6, 1857 he finds a great quantity of it all sere along a path in the woods beyond Ebby Hubbard's woods and decides to christen the path Pine-Sap Path. On August 13, 1858 he finds it apparently in the Lee Wood, oak woods between the Assabet River and Nashawtuc Hill. On October 14, 1858 he records finding it on the top of Ball's Hill. On September 23, 1860 he notes finding

it on his way to the Fairhaven Cliffs on the north side of Yew Path about ten rods east of the yew [Taxus canadensis]. Cherrie Corey found this in 2014 in the upper Spencer Brook valley and since 2008 has seen it just southwest of Gowing's Swamp and just above the Mink Pond drainage in Estabrook Woods. In October 2015 Cole Winstanley saw this in the vicinity of the Hepatica sink-hole. Voucher specimen in NEBC collected by Eaton on July 31, 1938 in moist pine woods at the Concord Country Club. Link to image.

Monotropa uniflora (GM8: same; TH: same)

#### INDIAN-PIPE

Pratt, Hosmer and Eaton say this is common. Specimen in Thoreau herbarium without date or locality. There are about 22 references to this in Thoreau's *Journal*. Voucher specimen in NEBC collected by Eaton on July 23, 1922 parasitic on a rotted oak stump in the Estabrook Woods. Link to image.

Orthilia secunda (GM8: Pyrola secunda; TH: Pyrola secunda)
ONE-SIDED PYROLA

Pratt simply notes this at Punkatasset Hill and Walden Woods. Hosmer list this without comment. Eaton says this is uncommon, although his unpublished notes call it very scarce. Specimen in Thoreau herbarium without date or locality. There are about nine references to this in Thoreau's *Journal*. On June 21, 1854 he notes it at Laurel Glen. On September 21, 1857 he finds it in a thick white pine wood east of a spruce swamp in an area south or east of Bateman's Pond. Voucher specimen in NEBC collected by Eaton on August 7, 1938 in pine woods in Brewster's Woods. Link to image.

Pyrola americana (GM8: Pyrola rotundifolia var. americana; TH: Pyrola rotundifolia) ROUND-LEAVED PYROLA

Pratt and Eaton say this is common. Hosmer does not list this and does not record any flowering date beside it in his copy of Gray's Manual of Botany [in NEBC library]. Specimens in Thoreau herbarium without date or locality. There are about 12 references to this in Thoreau's Journal. Eaton collected this on July 19, 1920 in oak woods near the edge of a clearing by Estabrook Road (BEDF specimen). Colleen Handel collected this on July 19, 1972 along the northern part of Estabrook Road in the Estabrook Woods (BEDF specimen). Cole Winstanley (2014) reported three stations of this in Estabrook Woods and one at the base of Fair Haven Hill near the Sudbury River. Voucher specimen in NEBC collected by Edward Hoar in June or July, 1857 with no locale within Concord given. Link to image.

Pyrola chlorantha (GM8: Pyrola virens, including var. convoluta; TH: same) GREEN PYROLA

Pratt simply notes this at Punkatasset Hill and Walden Woods. Hosmer says it is common [in the Concord vicinity]. Eaton calls it uncommon. Specimens in Thoreau herbarium without date or locality. There are about six references to this in Thoreau's *Journal*. On June 6, 1853 he apparently notes it in his Linnaea Woods. On June 8, 1853 he mentions what is probably this under the Fairhaven Cliffs. Eaton collected this on June 5, 1921 at White Pond (BEDF specimen). On June 17, 2016 Cole Winstanley found this in flower in pine woods at the edge of what was the Deep Cut in the Walden Woods. Voucher specimen in NEBC collected by Edward Hoar in June or July, 1857 with no locale within Concord given. Link to image.

Pyrola elliptica (GM8: same; TH: same)

#### SHINI FAF

Pratt simply notes this at Walden and Punkatasset Hill. Hosmer and Eaton say this is common. Specimens in Thoreau herbarium without date or locality. There are about seven references to this in Thoreau's *Journal*. Jarvis notes this on July 8, 1835 in Walden woods. In Aug. 2015 Cole Winstanley found more than 200 plants of this in a dense cluster in a rocklined sink hole about halfway between Newbury Field and Strawberry Hill Road. The

apparent increase in frequency of occurrence in this species from the time Thoreau and Pratt to the time of Hosmer and later could be due to the reforestation of the landscape in Concord and New England that was underway in the 19<sup>th</sup> century. Voucher specimen in NEBC collected by Horace Mann, Jr. in 1862 with no locale within Concord given. <u>Link to image.</u> Rhododendron canadense (GM8: same; TH: Rhodora canadensis)

Pratt and Hosmer say this is common. Eaton calls it occasional. Specimens in Thoreau herbarium without date or locality. There are about 48 references to this in Thoreau's *Journal*. Eaton collected this on October 27, 1927 in a sphagnum bog in Hudson's Woods [probably Kalmia Swamp] (BEDF specimen). On August 3, 1978 this author found a fair amount of this in the bog at the west end of Ministerial Swamp. This author also found it in the Nuclear Metals Bog on August 22, 1978. On May 6, 1979 this author found it just beginning to flower in the Kalmia Swamp. On May 5, 1983 this author found small patches of it just starting to flower at southeastern Hayward Pond and south Laws Brook Road. Voucher specimen in NEBC collected by Edward Hoar on May 24, 1858 with no locale within Concord given. Link to image.

Rhododendron groenlandicum (GM8: Ledum groenlandicum; TH: Ledum latifolium) LABRADOR TEA

**RHODORA** 

Pratt says this is rare, found only in two cold mossy bogs, both localities in the southwest quarter of the town [no doubt Ledum Swamp and the Nuclear Metals Bog, the latter unknown to Thoreau, Hosmer or Eaton]. Hosmer simply notes this at Heath Swamp [Ledum Swamp]. Eaton says this is rare, found at a single station [Ledum Swamp], now destroyed, near the southeastern limit of its range. Specimens in Thoreau herbarium not from Concord [!!]. There are about 24 references to this in Thoreau's *Journal*, all references to it in Concord are at one site. On February 4, 1858 he discovers it in the C.[harles] Miles swamp [later called by him Ledum Swamp]. This author looked for it at the ruined remnant of Ledum Swamp without success. On August 22, 1978 this author found a good amount of this in the Nuclear Metals Bog 1.1 kilometer from the southwest corner of the town and collected it there in flower on May 30, 1979 and in fruit on November 18, 1978 (BEDF specimens on one sheet). On May 3, 1979 this author found small patches of this in the swamp opposite the former Martial Miles residence. On May 27, 1979 this author found a vigorous colony of this in full flower at the western edge of Nut Meadow and collected it there on June 3. 1982 (BEDF specimen). Voucher specimen in NEBC collected by Eaton on May 21, 1922 in the peaty bog [Thoreau's Ledum Swamp] about 200 yards south of the Harry Keefe farm house east of the road to Nine Acre Corner [ruined by drainage operations which permitted swamp maple to "take over"]. Link to image.



Rhododendron groenlandicum (Labrador Tea) Nuclear Metals Bog (Tarbell's Swamp), Concord, MA October 25, 1978, by Ray Angelo

Rhododendron prinophyllum (GM8: Rhododendron roseum; TH: Azalea nudiflora (in part) misapplied)

### **ROSESHELL AZALEA**

Pratt says this is rare and adds that it is on the borders of the Assabet River, a short distance above Egg Rock, and that he had been told by one of the old hunters [Melvin?] (since deceased) that he had found it in another place, but he declined to give the locality [possibly the station in Lincoln near Farrar Pond]. Hosmer simply notes it at North Branch [Assabet River]. Eaton notes it as a single colony that still persists, formerly showy when in bloom, now (1974) too deeply shaded. Specimens in Thoreau herbarium without date collected at Assabet [River]. There are about 34 references to this in Thoreau's Journal. The most interesting and amusing ones are on May 31, 1853 where he gives an extensive account of extracting the information of its location from the hunter Melvin by arguing (in part) that he (Thoreau) "was a botanist and ought to know." Jarvis notes it on June 27, 1835 but gives no location. This author saw this in about the condition that Eaton reports in 1974, that is, flowering modestly well but not as abundantly as in former days (judging from photographs) when it was less shaded. This author collected it on September 1, 1976 in fruit, May 19, 1977 in flower and its winter buds on February 17, 1979 (BEDF specimen). Voucher specimen in NEBC collected by Eaton on May 21, 1922 at the margin of low, oak woods along railroad track, north side of Nashawtuc Hill. Link to image.



Rhododendron prinophyllum (Roseshell Azalea) Nashawtuc Hill, Concord, MA, May 20, 1982 by Ray Angelo

Rhododendron viscosum (GM8: same; TH: Azalea viscosa, Azalea nitida) SWAMP AZALEA

Pratt says it is abundant in borders of swamps. Hosmer calls it common. Eaton says it is frequent. Specimen in Thoreau herbarium without date or locality. There are about 56 references to this in Thoreau's *Journal*. Jarvis notes this on June 20, 1834 near Colburn Farm. Eaton collected this on December 18, 1921 at the margin of the water hole in the bog of Ledum Swamp at Harry Keefe Farm, and on June 22, 1935 in a swamp and pond margin in the Town Forest (NEBC specimens). William D. Countryman collected this on September 11, 1965 in woods near Bateman's Pond (VT specimen). Voucher specimen in NEBC collected by Edward Hoar on July 6, 1857 at White Pond. Link to image.

Vaccinium angustifolium (GM8: same, including var. laevifolium; TH: same, Vaccinium pennsylvanicum var. angustifolium)

# EARLY LOWBUSH BLUEBERRY

Pratt merely notes the habitat. Hosmer says it is common. Eaton calls it frequent. Specimens in Thoreau herbarium are without date or locality, or not from Concord. There are about 54 references to this in Thoreau's *Journal*. Eaton collected this on May 31, 1930 on his woodlot at Goose Pond (BEDF specimen), and on June 7, 1935 in dry scrub in the Town Forest (NEBC specimen). Voucher specimen in NEBC collected by Eaton on July 4, 1920 in a wet sphagnous brook meadow near the 8<sup>th</sup> hole of the Concord Country Club. <u>Link to image</u>.

Vaccinium corymbosum (GM8: same, including var. albiflorum & var. glabrum; TH: same, including var. glabrum)

# HIGHBUSH BLUEBERRY

Pratt and Hosmer say this is common, but not distinguishing this from V. fuscatum. Eaton calls it frequent. Specimens in Thoreau herbarium without date or locality. There are numerous references to this and its closely related species, Vaccinium fuscatum (considered a

variety in the Thoreau's time), in Thoreau's *Journal* under the same scientific name and common names that could be either species. This species is more common than V. fuscatum. Laurence E. Richardson collected this on May 29, 1961 at Bull Bog [Gowing's Swamp] (BEDF specimen). Voucher specimen in NEBC collected by Eaton on May 18, 1935 in a swamp north of [Fairyland] pond in the Town Forest. Link to image.

Vaccinium fuscatum (GM8: Vaccinium atrococcum; TH: Vaccinium corymbosum var. atrococcum & var. atrocarpum)

#### **BLACK HIGHBUSH BLUEBERRY**

Pratt merely describes this. Hosmer does not distinguish it from V. corymbosum. Eaton says this is frequent. Specimen (flowering) labeled as this in Thoreau herbarium without date collected by Trillium Wood, and another specimen (foliage) without date or locality possibly from the same plant as the first specimen which had been marked for study by Thoreau with string. Many references in Thoreau's *Journal* to V. corymbosum and most of its common names might refer to this species. About three references using particular common names refer to this. Voucher specimen in NEBC collected by Eaton on July 17, 1917 on a gravelly shore of Goose Pond on his woodlot. Link to image.

Vaccinium macrocarpon (GM8: same; TH: same)

#### LARGE CRANBERRY

Pratt simply notes its habitat. Hosmer says it is common. Eaton calls it common, often abundant. Specimens in Thoreau herbarium without date or locality. There are 12 references in Thoreau's *Journal* specifically to this, and the great preponderance of references simply to "cranberry," about 154 of them, would refer to this species. Voucher specimen in NEBC collected by Eaton and his son Jefferson T. Eaton on December 18, 1967 in clear sphagnum in the quaking bog [Heywood's Meadow] southeast of Walden Pond. <u>Link to image</u>.

Vaccinium oxycoccos (GM8: same; TH: same)

# SMALL CRANBERRY

Pratt says this is in most of the peat [sphagnum] bogs about town. Hosmer simply notes its habitat. Eaton calls it rare, only at two stations [Gowing's Swamp and the White Pond Bog]. Specimens in Thoreau herbarium without date collected from Gowing's Swamp, are most likely associated with his *Journal* entry of August 23, 1854. There are about 25 references in Thoreau's *Journal* specifically to this. A small percentage of the references simply to "cranberry" are likely to be to this. On August 23, 1853 he notes first finding this in Concord in Gowing's Swamp. On August 30, 1856 he records finding it in Beck Stow's Swamp and goes on in great detail about them on this date. On June 13, 1858 he mentions it as abundant at Ledum Swamp. On August 10, 1978 this author found this abundant in the White Pond Bog. On August 22, 1978 this author found it at the Nuclear Metals Bog. This author saw it as well at Gowing's Swamp. Voucher specimen in NEBC collected by Eaton on June 11, 1916 in the bog near Merriam's Corner [Gowing's Swamp]. Link to image.

Vaccinium pallidum (GM8: Vaccinium vacillans; TH: Vaccinium vacillans)

# LATE LOWBUSH BLUEBERRY

Pratt simply notes its habitat. Hosmer and Eaton say it is common. Specimens in Thoreau herbarium without date or locality. There are about 42 references to this in Thoreau's *Journal*. Eaton collected this on June 7, 1935 on dry banks and woods in the Town Forest (NEBC specimen). Laurence E. Richardson collected this on August 10, 1961 at the Sudbury line (BEDF specimen). Voucher specimen in NEBC collected by Edward Hoar on August 8, 1857 in Oak Meadow [now Mink Pond in the Estabrook Woods] in a rocky pasture. Link to image.

# **Euphorbiaceae** (GM8: same; TH: same (in part))

Acalypha gracilens (GM8: same; TH: same)

Pratt and Hosmer do not list this. Eaton says it is occasional. No specimen in Thoreau herbarium. There is only one reference to this in Thoreau's *Journal*. On August 13, 1854 he refers to it being in flower for some time in Macintosh's field (pasture) which is probably in the town of Lincoln, MA. Voucher specimen in ECON at Harvard University Herbaria collected by William P. Rich on September 21, 1902 on a railway bank. <u>Link to image</u>.

Acalypha rhomboidea (GM8: same; TH: not treated in the manuals used by Thoreau, would have been included under Acalypha virginica)

Pratt and Hosmer do not list this. Eaton says it is common, often weedy. There are two references to Acalypha virginica in Thoreau's *Journal* which might be Acalypha rhomboidea. Eaton collected this on September 18, 1962 along a gravel farm road on the Kenny Farm on Virginia Road (BEDF specimen). Voucher specimen in NEBC collected by Emile F. Williams on October 9, 1898 with no locale within Concord given. <u>Link to image</u>.

Acalypha virginica (GM8: same; TH: same, but including Acalypha rhomboidea)
Pratt does not list this. Hosmer says it is common, but would be including Acalypha rhomboidea. Eaton calls this uncommon. Specimen in Thoreau herbarium without date or locality. There are two references to this name in Thoreau's Journal. On August 4, 1852 he applies this name to a weed in the ditch by poorhouse road [Walden St.]. On July 29, 1853 he mentions this being out in some places. Eaton collected this on October 4, 1959 in a brushy hillside pasture on south side of Annursnack Hill where abundant (NEBC & BEDF specimens). Voucher specimen in NEBC collected by Edward Hoar on October 3 (no year) at Hurd's Hill [Nashawtuc Hill] north of wall running down toward Egg Rock. Link to image.

EUPHORBIA CYPARISSIAS (GM8: same; TH: same)

# CYPRESS SPURGE

Pratt does not list this. Hosmer says this is common. Eaton simply notes it as scattered colonies. Specimen in Thoreau herbarium without date or locality. There are three references to this in Thoreau's *Journal*. On August 24, 1857 he refers to it by the north roadside east of Jarvis's and also at J. Moore's front yard. Voucher specimen in NEBC collected by Eaton and Laurence E. Richardson on June 1, 1958 in low ground at the edge of a cultivated field on Barrett's Mill Road opposite Angier's Mill site. Link to image.

Euphorbia maculata (GM8: Euphorbia supina; TH: same)

# MILK-PURSLANE

Pratt says this is common. Hosmer calls it very common. Eaton says it is common. Specimen in Thoreau herbarium without date or locality. There are about 11 references to this in Thoreau's *Journal*. Eaton collected this (as Euphorbia supina) on September 15, 1957 in the gravel sidewalk in front of the Ralph Waldo Emerson house (NEBC specimen). Voucher specimen in NEBC collected by Edward Hoar in September 1857 at Cliffs [Fairhaven Cliffs]. Link to image.

**Fabaceae** (GM8: Leguminosae; TH: Leguminosae) AMORPHA FRUTICOSA (GM8: same; TH: same)

FALSE INDIGO

Pratt and Hosmer do not list this. Eaton says it is uncommon. No specimen in Thoreau herbarium or reference to this in his *Journal*. L.E. Richardson collected this on June 12, 1965 in thicket at Barrett's Mill Road at the edge of a travelled way near a dwelling (NEBC and BEDF specimens). On July 24, 1981 this author found some of it along the railroad bed just

east of the Rhododendron prinophyllum site. In 2021 Cherrie Corey reported that this had spread much over the preceding 10 years to become more or less frequent. Voucher specimen in NEBC collected by Eaton on October 11, 1956 at edge of a river meadow on shoulder of causeway at Nashawtuc Bridge. <u>Link to image</u>.

Amphicarpaea bracteata var. bracteata (GM8: Amphicarpa bracteata; TH: Amphicarpaea monoica)

# HOG-PEANUT

Pratt simply notes this in the northerly part of town. Hosmer says it is common. Eaton refers to it as frequent in the Walden-Fairhaven region. Specimens in Thoreau herbarium without date or locality. There are about 14 references to this in Thoreau's *Journal*. Jarvis notes this in August 1834 at factory. Edward Hoar collected this on August 24, 1857 on the Walden Wood Road to Lincoln, probably in Concord (NEBC specimen). Eaton collected this on September 5, 1957 along a wood road southeast of Fairhaven Hill, and by Eaton on August 23, 1959 along path near river [Sudbury River] north of Staples Camp at Fairhaven Bay (specimens missing), and on September 20, 1965 on a dry, narrow bank just above the highwater mark at Walden Pond (BEDF specimen). This author found it flowering in the Estabrook Woods on August 20, 1982. Voucher specimen in NEBC collected by Eaton on June 1, 1965 in a bushy opening at the foot of a wooded cliff at Conantum. Link to image.

Apios americana (GM8: same; TH: Apios tuberosa)

#### **GROUNDNUT**

Pratt, Hosmer and Eaton say this is common. Specimen in Thoreau herbarium without date or locality. There are about 25 references to this in Thoreau's *Journal*. Jarvis notes this on August 4, 1834 in meadow near Benjamin Hallowell's [Benjamin Hollowell (ca. 1763 - 1836) of Thoreau's Hollowell Place on the Sudbury River]. Laurence E. Richardson collected this on August 15 circa 1960 at Martha's Point (BEDF specimen). Cherrie Corey (2014) reported this still to be plentiful along damp, shrubby edges of agricultural fields, trails and riverbanks of the Sudbury and Concord Rivers, and also found it recently in the upper Spencer Brook valley. Voucher specimen in NEBC collected by Edward Hoar on June 28, 1858 with no locale in Concord given. Link to image.

Baptisia tinctoria (GM8: same; TH: same)

# WILD INDIGO

Pratt says this is common. Hosmer calls it very common. Eaton says it is common. Specimen in Thoreau herbarium without date or locality. There are about 25 references to this in Thoreau's *Journal*. Lynn Bohs collected this on October 3, 1981 in open woods along a trail in the Estabrook Woods (ECON specimen at Harvard University Herbaria). This author saw a good quantity of this in a large, open, dry, sandy plain (Second Division Mesa) near Second Division Brook in the early 1980s. In 2021 Cherrie Corey reported tht this had decreased to become infrequent. Voucher specimen in NEBC collected by Walter Deane on July 21, 1886 on a hillside. Link to image.

CARAGANA ARBORESCENS (GM8: not listed; TH: not treated in the manuals used by Thoreau)

# SIBERIAN PEATREE

Pratt, Hosmer and Eaton do not list this. No specimen in Thoreau herbarium or reference to this in his *Journal*. Voucher specimen in NEBC (and in BEDF) collected by this author and Sarah Chapin on May 18 (in flower), 1983, colony well-established in a rich thicket in the Pratt area southwest of Punkatasset Hill, station subsequently destroyed by landscaping operations. Link to image.

# CHAMAECRISTA FASCICULATA (GM8: Cassia fasciculata; TH: Cassia chamaecrista) PARTRIDGE-PEA

Pratt says he introduced this from the neighborhood of Boston and placed it near Punkatasset Hill. Hosmer simply notes it at the Lowell Railroad near Monument Street. Eaton calls it rare, only at two stations. No specimen in Thoreau herbarium. There are two references to it in Thoreau's *Journal*, neither of which refers to occurrence in Concord. Eaton in unpublished notes refers to this near the Filter Beds south of Great Meadows which would be in the vicinity mentioned by Hosmer. Cherrie Corey photographed this in October 2016 in a newly formed buffer meadow between a new Concord-Carlisle High School building and the Beede Fitness Center. Its presence at this site might be due to wildflower reseeding efforts at this site or at another site in the vicinity in the recent past (Rte. 2 landfill). Voucher specimen in NEBC (and in BEDF) collected by Eaton on August 7, 1938 in a sandy field on Ball's Hill Road where locally abundant. Link to image.

# CLADRASTIS KENTUKEA (GM8: Cladrastis lutea; TH: Cladrastis tinctoria) AMERICAN YELLOWWOOD

Pratt, Hosmer and Eaton do not list this. No specimen in Thoreau herbarium or reference to this in his *Journal*. Voucher specimens in NEBC (and in BEDF) collected by this author on June 19 (in flower), 1982 in the Pratt area west of Punkatasset Hill well-established, but subsequently destroyed by landscaping operations. <u>Link to image</u>.

# Crotalaria sagittalis var. sagittalis (GM8: same; TH: same) COMON RATTLEBOX

Pratt says this is rare, noting it in the field opposite Richard Barrett's and in fields near the old Peter Hutchinson place. Hosmer calls this rather common [in the Concord vicinity]. Eaton says it was formerly uncommon, now very scarce, persisting sparingly near the filter beds. Specimens in Thoreau herbarium without date or locality. There are about 13 references to this in Thoreau's Journal. On September 9, 1852 he mentions it for the first time finding it in front of Caesar's [Peter Hutchinson place and vicinity of filter beds] still in bloom. On October 3, 1856 he notes finding it behind the Wyman site. On November 1, 1857 he records coming across it in the high field west of the cut [railroad cut on the way toward Fairhaven Cliffs]. On October 3, 1858 he notes finding it in fruit on the bare sandy and arayelly slope of the [Deep] Cut near where he found it the previous year. On this date he comments on it: "One year I find it on the Great Fields and think it rare; the next I find it in a new and unexpected place. It flits about like a flock of sparrows, from field to field." Eaton collected this on August 17, 1938 in dry, sandy soil of a railroad bank east of the filter beds (NEBC and BEDF specimens). Voucher specimen in NEBC collected on August 12, 1879 at the F.[itchburg] R.[ail] Road near the Lincoln line, Edward Hoar referencing "Mr. Pratt" as collector [most likely Frederick Pratt, the only surviving son of Minot Pratt]. Link to image.

# Desmodium canadense (GM8: same; TH: same)

# SHOWY TICK-TREFOIL

Pratt simply notes this in the Estabrook region. Hosmer says it is rather common. Eaton calls it common. Two specimens in Thoreau herbarium without date or locality except for one that might be from Ball's Hill (illegible). There are about nine references to this in Thoreau's *Journal*. Laurence E. Richardson collected this on August 8, 1961 along the roadside to Bull Bog [Gowing's Swamp] (BEDF specimen). Eaton collected this on August 27, 1967 at roadside at the Town Forest (BEDF specimen). K. Shea and B. Blair collected this on August 16, 1977 from the water's edge at Great Meadows National Wildlife Refuge (MASS specimen). Voucher specimen in GH collected by David Potter and C.M. Pomerat on July 20, 1930 along the Cambridge Turnpike. Link to image.

Desmodium canescens (GM8: same: TH: same)

Pratt and Hosmer do not list this. Eaton says this is uncommon, not found north of Concord. No specimen in Thoreau herbarium or reference to this in his *Journal*. Voucher specimen in NEBC collected by Eaton on September 9, 1937 in sandy loam of a fallow field at Clamshell Bluff. Link to image.

Desmodium marilandicum var. marilandicum (GM8: same; TH: same)

Pratt does not list this. Hosmer lists it without comment. Eaton says it is uncommon. Specimen in Thoreau herbarium without date or locality. There are about six references to this in Thoreau's *Journal*. On August 14, 1853 Thoreau notes finding this on Heywood Peak and also by Woodside Path to White Pond. On August 24, 1858 and September 5, 1860 he mentions finding it along Ball's Hill low shore. Voucher specimen in NEBC collected by Eaton on August 16, 1959 in a dry, open thicket at the summit of Annursnack Hill just below the reservoir embankment on the south side, in one abundant colony. Link to image.

Desmodium marilandicum var. ciliare (GM8: Desmodium ciliare; TH: Desmodium ciliare) Pratt simply notes this in the Estabrook region. Hosmer does not list this. Eaton says it is rare, at the northern limit of its range. No specimen in Thoreau herbarium or reference to this in his *Journal*. Voucher specimen in NEBC collected by Charles W. Jenks on August 23, 1884 on a bank of Concord River. Link to image.

Desmodium marilandicum var. lancifolium (GM8: Desmodium rigidum; TH: Desmodium rigidum)

Pratt simply notes this in dry copses near the Estabrook place. Hosmer just notes it at Conantum. Eaton says it is uncommon. Specimen in Thoreau herbarium dated August 18, 1856 without locality. There are about three references to this in Thoreau's *Journal*. An unpublished passage of Thoreau's *Journal* for this August 18, 1856 gives the locality for his specimen of that date as the high path side north of Moore's Holly Swamp. On September 5, 1860 he records finding either this or Desmodium marilandicum along Ball's Hill low shore. Eaton collected this on September 9, 1932 in a dry field at Annursnack Hill (BEDF specimen). Voucher specimen in NEBC collected by Edward Hoar on August 24, 1857 on the eastern shore of Walden Pond. Link to image.

Desmodium paniculatum var. paniculatum (GM8: same + Desmodium perplexum; TH: same, Hedysarum paniculatum + Desmodium dillenii (in part))

Pratt simply notes this in copses near the Estabrook place. Hosmer just notes it at Conantum. Eaton says it is uncommon. Eight specimens in Thoreau herbarium -- six without locality, one of them dated August 7, 1856, two dated August 19, 1856, one dated August 23, 1856, and an undated one from the [Fairhaven] cliffs. There are about 14 references to this in Thoreau's *Journal*. On September 10, 1851 he notes it in the vicinity of the Grape Cliff by the path-side up from the meadow. On August 24, 1852 he mentions it at Saw Mill Brook path. On August 7, 1856 [date of one of his herbarium specimens] he notes finding it at Blackberry Steep in Conantum. On September 29, 1856 he mentions it again at Grape Cliff. In an unpublished passage from Thoreau's *Journal* entry for August 26, 1856 he writes: "The Desmod.[ium] Dillenii of August 19<sup>th</sup> [1856] under F[air] H.[aven] Hill proves by its rhomboidal pods to be the D.[esmodium] Dillenii now first distinguished." Eaton collected this on July 30, 1959 at the edge of dry, deciduous woods on Annursnack Hill on the southwest side (BEDF specimen). On August 29, 1979 this author found it in flower in the Estabrook Woods. Voucher specimen in NEBC collected by Edward Hoar on August 24, 1857 on the eastern shore of Walden Pond. Link to image.

Desmodium rotundifolium (GM8: same; TH: same)

Pratt says this is rare and mentions it in dry, rocky woods near the Sugar Maple Grove. Hosmer simply notes it at Conantum. Eaton calls it infrequent. Specimens in Thoreau herbarium without date or locality. There are about nine references to this in Thoreau's *Journal*. On September 1, 1852 he notes it just going out of bloom on the side of Heywood's Peak. On August 12, 1853 he mentions it at Conantum on the hillside beyond the elm [Ulmus rubra]. On September 29, 1856 he records it at Grape Cliff. Bernice G. Schubert collected this on September 6, 1947 at a shore of Walden Pond (GH specimen). Eaton collected this on August 16, 1959 on a dry slope in deciduous woods along path near the [Sudbury] river north of Staples Camp at Fairhaven Bay (NEBC specimen). Voucher specimen in NEBC collected by Edward Hoar on September 5 (no year) on east shore of Fairhaven Pond in woods on dampish ground. Link to image.

GENISTA TINCTORIA (GM8: same; TH: same)

DYER'S GREENWEED

Pratt says this is rare and notes a small patch of it in the rocky pasture near the Lime Kiln [Estabrook Woods]. Hosmer simply mentions it at the Lime Kiln. Eaton says it is rare. No specimen in Thoreau herbarium. There are about 12 references to this in Thoreau's *Journal*. On May 21, 1858 Thoreau records Pratt showing him the station for this in the Estabrook Woods in the Boulder Field. This was the only site in Concord where Thoreau, Pratt, Hosmer saw this. Eaton collected it on August 21, 1957 in a dry, fallow field at Clamshell Bluff where well-established [after Thoreau's time] (NEBC specimen). Laurence E. Richardson collected this on July 26, 1968 in an arid field above the Sudbury River (BEDF specimen). This author collected it on June 21, 1981, finding a few clumps of this in Pratt's birch field (annually mowed) west of Punkatasset Hill (BEDF specimen). Voucher specimens in NEBC collected by Edward Hoar on June 28, 1858 behind N.[athan] Barrett's hill [Punkatasset Hill], "a new arrival in this vicinity" [possibly the same locality where this author found it]. Link to image.

GLEDITSIA TRIACANTHOS (GM8: same; TH: Gleditschia triacanthos) HONEY LOCUST

Pratt and Hosmer do not list this. Eaton says it is rare. No specimen in Thoreau herbarium. There are two references to this in Thoreau's *Journal*. Neither of the *Journal* references is to wild occurrence in Concord. This author collected it just starting to flower on May 31, 1981 and on October 9, 1983 in a thicket in a waste area off the north side Laws Brook Road near Warner's Pond where there were a number of trees and seedlings up to 13 meters high (BEDF specimens). Voucher specimen in NEBC collected by Eaton on July 31, 1958 at roadside on Barrett's Mill Road opposite Angier's Mill property where there were many seedlings up to three or more years old from a parent roadside shade tree. Link to image.

Hylodesmum glutinosum (GM8: Desmodium glutinosum; TH: Desmodium acuminatum) Pratt says this is more common than Hylodesmum nudiflorum, in the same localities. Hosmer calls this not uncommon. Eaton says it is uncommon. Two specimens in Thoreau herbarium without date or locality. There are about six references to this in Thoreau's *Journal*. On August 22, 1852 he refers to it still in bloom near the poplars on White Pond road. On July 17, 1854 he notes it in flower at Conant Orchard Grove. On August 26, 1856 he mentions it by a rock at Blackberry Steep [at Conantum]. Eaton collected this on August 6, 1958 at Conantum in open, wooded talus under dioritic ledge, and on July 26, 1959 on cliff talus at the southwest foot of Fairhaven Hill (BEDF specimens). On September 3, 1980 this author found a small colony of this near Uvularia perfoliata on the southwest side of Annursnack Hill. On July 2, 1981 this author found it in flower at the Conantum Cliffs. On July 29,

1982 this author found it at the native Sugar Maple Grove as noted indirectly by Pratt. On June 21, 1983 this author found it close to the Sudbury town line near the Sudbury Silver Mine just west of the railroad track at edge of woods, which was here also in Sept. 2015 by Cole Winstanley. This author also found it at the Estabrook home site. In 2014 Cherrie Corey reported this to be common having found it in the Estabrook Woods, the upper Spencer Brook valley, the Wright Woods, and the Concord Conservation Land Trust trail to the Sugar Maple Grove. Voucher specimen in NEBC collected by Edward Hoar on August 24, 1857 at the east shore of Walden Pond. Link to image.

Hylodesmum nudiflorum (GM8: Desmodium nudiflorum; TH: Desmodium nudiflorum) Pratt notes that it is found among the [native] Sugar Maples in the Nine Acre Corner district, in the woods south of Bateman's Pond, and sparsely in other places. Hosmer calls it common. Eaton says it is rare. Specimens in Thoreau herbarium without date from Heywood Peak. There are five references to this in Thoreau's Journal. On July 31, 1853 he refers to it in flower at Heywood Peak, and this appears to be the only location he knew for it. On August 29, 1981 this author found it just at the end of flowering on the north side of Walden Pond. On July 29, 1982 this author found it at the native Sugar Maple Grove (as recorded by Pratt). On August 20, 1982 this author found it plentiful at the lime quarries in the Estabrook Woods. On September 6, 1982 this author found it about a quarter of a mile along the trail from Strawberry Hill Road to the Bemis land. Cole Winstanley found some of this below Cliffs southwest of the Bemis Cliffs in Aug. 2015 which might be this author's find of Sept. 6, 1982. On September 13, 2015 Cole Winstanley found this on drumlins and an outcrop in woods west of White Pond near the Sudbury line west of the railroad tracks, the same locale where both of us found the Hylodesmum glutinosum. Voucher specimen in NEBC collected by Eaton on July 30, 1959 on a dry hillside in open, deciduous woods on the southwest side of Annursnack Hill near the summit. Link to image.

LATHYRUS LATIFOLIUS (GM8: same; TH: same)

#### **EVERLASTING PEA**

Pratt, Hosmer and Eaton do not list this. No specimen in Thoreau herbarium or reference to this in his *Journal*. This author collected it on July 6, 1979 in a waste area north of Laws Brook Road between this road and Warner's Pond, numerous plants climbing on other tall herbs (BEDF specimen). Voucher specimen in NEBC collected by this author on June 21, 1981 in a thicket at the edge of a Kalmia latifolia plantation on Punkatasset Hill. <u>Link to image</u>.

LATHYRUS PRATENSIS (GM8: same; TH: not treated in the manuals used by Thoreau) YELLOW VETCHLING

Pratt does not list this. Hosmer simply notes it at Punkatasset Hill. Eaton says it is casual. No specimen in Thoreau herbarium or reference to this in his *Journal*. Voucher specimen in NEBC collected by William Brewster on June 27, 1918 on a dry, grassy hilltop on Miss Mary Eaton's estate. Link to image.

LATHYRUS SYLVESTRIS (GM8: same; TH: not treated in the manuals used by Thoreau) FLAT PEA

Pratt, Hosmer and Eaton do not list this. No specimen in Thoreau herbarium or reference to this in his *Journal*. Voucher specimen in NEBC (and in BEDF) collected by this author on July 6, 1979 in a waste area between Laws Brook Road and Warner's Pond. Link to image.

Lespedeza capitata (GM8: same, including var. vulgaris; TH: same)

Pratt indicates this has the same occurrence as Lespedeza hirta which he says is common. Hosmer and Eaton also call this common. Two specimens in Thoreau herbarium, one undated and the other dated August 2-6 [no year], both with no locality. There are about seven

references to this in Thoreau's *Journal*, none of which are dated August 2-6. Eaton collected this on October 9, 1921 on a dry hillside near the summit of Annursnack Hill, and on September 8, 1957 at the edge of a dry, wooded bank on the east side of Holden's Hill (NEBC specimens, latter also in BEDF). Voucher specimen in NEBC collected by Edward Hoar on August 24, 1857 on the east shore of Walden Pond. Link to image.

Lespedeza hirta subsp. hirta (GM8: same; TH: same, Lespedeza polystachia)

Pratt, Hosmer and Eaton say this is common. Specimen in Thoreau herbarium without date or locality. There are about nine references to this in Thoreau's *Journal*. Eaton collected this on September 16, 1961 on a dry bank in oak woods at Walden Pond (BEDF specimen). Voucher specimen in NEBC collected by Edward Hoar on August 24, 1857 in woods on the east side of Walden Pond. Link to image.

Lespedeza violacea (GM8: Lespedeza intermedia - misapplied; TH: Lespedeza violacea in the modern sense would have been included under the same name in Thoreau's time, but Lespedeza frutescens, to which the name "Lespedeza violacea" has been misapplied and which probably occurs in Concord, also would fit under "Lespedeza violacea" as used in Thoreau's time)

Pratt says this is common, but including Lespedeza virginica in his use of the name. Hosmer simply notes it (as Lespedeza stuvei var. intermedia) at Conantum. Eaton says it (as Lespedeza intermedia) is occasional. Five specimens in Thoreau's herbarium with Concord locality and/or date -- one from Heywood Peak, one from Blackberry Steep on August 7, 1856, one undated from Blackberry Steep, and ones collected on August 18, 1856 and August 23, 1856 without locality. The one from August 18, 1856 is from a path at Moore's Swamp according to an unpublished *Journal* passage. A sixth specimen is without date or locality. Thoreau's *Journal* uses this name about 14 times, but likely includes Lespedeza virginica. Eaton collected this (as Lespedeza intermedia) on September 15, 1928 on a sandy wood road on his wood lot at Goose Pond, on August 16, 1959 in dry, low thicket with openings near summit of Annursnack Hill, south side, and on September 16, 1961 on a dry, gravelly slope in oak woods near the sphagnum bog south of Walden Pond (BEDF specimens). Laurence E. Richardson collected this (as Lespedeza nuttallii) on August 8, 1960 on a ridge at Strawberry Hill Road (BEDF specimen). Voucher specimen in NEBC collected by Edward Hoar on August 24, 1857 in Walden Woods, east shore of Pond. Link to image.

Lespedeza virginica (GM8: same; TH: Lespedeza violacea var. angustifolia & var. sessiliflora, Lespedeza sessiliflora)

SLENDER BUSH-CLOVER

Pratt does not list this. It is included (under the name Lespedeza reticulata) without comment in an addendum of three loose pages associated with his manuscript after his death. He would have included it under Lespedeza violacea which he says is common. Hosmer calls this (as Lespedeza reticulata) rather common. Eaton says this is uncommon. Two undated specimens in Thoreau herbarium and one of these without locality. The one from Concord from Bittern Cliff [Martha's Point] wood can be associated with his *Journal* entry for August 13, 1856. There are about six references to this in Thoreau's *Journal*. Emile F. Williams and George F. Wheeler collected this on August 28, 1908 at Fair Haven Hill (GH specimen). Eaton collected this on September 13, 1957 in an old field in sterile soil along Garfield Road (BEDF specimen). Voucher specimen in NEBC collected by Eaton on October 9, 1921 on a dry hillside on the southern slope of Annursnack Hill. Link to image.

LOTUS CORNICULATUS (GM8: same; TH: not treated in the manuals used by Thoreau)
BIRD'S-FOOT TREFOIL

Pratt and Hosmer do not list this. Eaton lists it only in an appendix as probably in Concord. No specimen in Thoreau herbarium or reference to this in his *Journal*. This author found it first at the site where collected as noted below, then on July 4, 1979 in a sandy waste area northeast of baby bogs near the Nuclear Metals Bog, also south of Annursnack Hill, and elsewhere. This author's voucher specimen given to NEBC collected on June 20, 1979 at the Old Rifle Range along the trail off Marlborough Road running north of the swamp, is missing. Voucher specimen in BEDF collected by Laurence E. Richardson on July 13, 1962. Image not available.

Lupinus perennis (GM8: same; TH: same)

WILD LUPINE

Pratt, Hosmer and Jarvis say this is common. Eaton calls it scarce, becoming rare, greatly depleted in the Concord area in recent years. Three specimens in Thoreau herbarium without date or locality except a white form collected beyond Lead Mill [in Acton, MA]. There are about 32 references to this in Thoreau's Journal. Walter Deane collected this on July 6, 1893 at Ball's Hill (MASS specimen). Laurence E. Richardson collected this along the railroad near the filter beds on May 17, 1960 (BEDF specimen). On May 26, 1979 this author happened upon several plants of this in flower along the railroad bed between the filter beds and the Great Meadows entrance. This author photographed these on June 1, 1980. As the railroad bed ran along the rear property lines of at least 10 residences and as some of the residents were inclined to dump yard waste on both sides of the railroad bed, it was not entirely surprising that this author could not locate this species again along the railroad bed in 2007. Eaton in unpublished notes says that it formerly occurred on a roadside bank along the Old Road to Nine Acre Corner south of Jenny Dugan Brook (Nut Meadow Brook). The decline in occurrence of this species that is generally found in open, dry, sandy habitat is consistent with similar declines in other species that are found in this habitat, which is much reduced due to reforestation and development. Voucher specimen in NEBC collected by Edward Hoar on June 17, 1858 along a roadside. Link to image.

LUPINUS POLYPHYLLUS var. POLYPHYLLUS (GM8: same; TH: same)
GARDEN I UPINE

Pratt, Hosmer and Eaton do not list this. No specimen in Thoreau herbarium or reference to it in Thoreau's *Journal*. On July 2, 2016 Cole Winstanley found and photographed a colony of this in full fruit near the access road to Hanscom Air Base off Virginia Road near the Concord line. On August 28, 1982 this author collected this just over the Concord line in Lincoln along Lexington Road which is in the general vicinity of Winstanley's colony (NEBC specimen). Voucher is Cole Winstanley's photograph. See Appendix G for image.

MEDICAGO LUPULINA (GM8: same; TH: same)

**BLACK MEDICK** 

Pratt and Hosmer do not list this. Eaton says it is common. Specimen in Thoreau herbarium without date or locality identified as this by Walter Kittredge. No reference to this in his *Journal*. Voucher specimen in BEDF collected by Eaton (as Trifolium procumbens) on July 8, 1958 in dry, open soil, abundant at Clamshell Bluff. Image not available.

MEDICAGO SATIVA subsp. SATIVA (GM8: same; TH: same)

ALFALFA

Pratt and Hosmer do not list this. Eaton says it is occasionally persistent after cultivation. Specimen in Thoreau herbarium not from Concord. No references to this in Thoreau's *Journal* from Concord. Voucher specimen in NEBC collected by Edward Hoar on July 14, 1889 adventive in Miss Pritchard's grass in gravelly, dry soil. Link to image.

# MELILOTUS ALBUS (GM8: same: TH: same)

WHITE SWEET-CLOVER

Pratt says this is cultivated in gardens, occasionally found spontaneous. Hosmer simply notes it at the railroad station and at Lang Street. Eaton calls this uncommon. Specimen in Thoreau herbarium with this name followed by a question mark is without date or locality. There are about three references to this in Thoreau's *Journal*. On July 10, 1852 he finds it in flower by the roadside as he walks along Union Turnpike. In 2021 Cherrie Corey reported this to be frequent. Voucher specimen in NEBC collected by Eaton on June 29, 1958 in waste ground at the Laws Brook Road dump. Link to image.

MELILOTUS OFFICINALIS (GM8: same; TH: same)

YELLOW SWEET-CLOVER

Pratt does not list this. Hosmer simply notes it at dump. Eaton says it is uncommon. No specimen in Thoreau herbarium or reference to this in his *Journal*. Voucher specimen in NEBC collected by Eaton on August 19, 1934 in a dry field at Clamshell Bluff. Link to image.

ROBINIA HISPIDA var. HISPIDA (GM8: same; TH: same)

**BRISTLY LOCUST** 

Pratt and Hosmer do not list this. Eaton says it is abundant at two stations. No specimen in Thoreau herbarium or reference to this in his *Journal*. In unpublished notes Eaton records seeing it along the railroad in West Concord near the reformatory [current prison]. Laurence E. Richardson collected this on July 4, 1960 along the New York, New Hampshire and Hartford Railroad at Warner's Pond (BEDF specimen). This author saw it just starting to flower on May 20, 1979 along the Sudbury Road roadside soon after passing Heath Bridge Road heading south. This author also saw it along the railroad just south of Sudbury Road not far from the station. Voucher specimen in NEBC collected by Eaton on June 3, 1958 on a high, sandy, roadside bank under a wooded knoll about 300 meters southwest of Heath's Bridge on Sudbury Road where abundant [where this author saw it in 1979]. Link to image.

ROBINIA PSEUDOACACIA (GM8: same; TH: same)

**BLACK LOCUST** 

Pratt simply notes various habitats where it is found in Concord. Hosmer says it is common. Eaton calls it occasional. Specimen in Thoreau herbarium without date or locality. There are about 53 references to this in Thoreau's *Journal*. Lynn A. Maguire and Phil Nelson collected this on July 3, 1972 frequent along Estabrook Road north of the Raymond Emerson fields in dry, fertile woods (BEDF specimen). In 2021 Richard Forman reported large stands of this at Punkatasset Hill and October Farm Riverfront, each covering several or more acres. Voucher specimen in NEBC collected by Horace Mann, Jr. in 1862 with no locale within Concord given. Link to image.

ROBINIA VISCOSA var. VISCOSA (GM8: same; TH: same)

CLAMMY LOCUST

Pratt and Hosmer do not list this. Eaton lists it only in an appendix as unlikely in Concord. No specimen in Thoreau herbarium or reference to this in his *Journal*. Voucher specimen in BEDF collected by this author on June 26, 1982 just nearing end of flowering along Bedford Street outside of the Sleepy Hollow Cemetery. Image not available.

SECURIGERA VARIA (GM8: Coronilla varia; TH: not treated in the manuals used by Thoreau) CROWN-VETCH

Pratt does not list this. Hosmer simply notes it at the Turnpike and near John Hosmer Place. Eaton says it is occasional, abundant at a recently discovered station. No specimen in Thoreau herbarium or reference to this in his *Journal*. On June 26, 1981 this author found it in flower on a steep bank along Harrington Road. C.W. Jenks collected this on August 4, 1895 on Sandy Pond Road (NEBC specimen). Voucher specimen in NEBC collected by Eaton

on June 20, 1960 abundant along a dry roadside (Lowell Road) under a young Red Pine plantation near old Worthley Farm [1227 Lowell Road]. Link to image.

Senna hebecarpa (GM8: Cassia hebecarpa; TH: Cassia marilandica)

#### WILD SENNA

Pratt says this is rare, on Lexington Road along borders of brook beyond S. Hartwell's. Hosmer simply notes it on Lexington Road and Bedford Road. Eaton says it is rare and that a small colony along Lexington Road near the Lincoln boundary persisted until about 1905. Specimens in Thoreau herbarium without date or locality. There are about four references to this in Thoreau's *Journal*. On August 11, 1856 he notes George P. Bradford giving him a sprig of this that Minot Pratt had found just below Leighton's by the roadside [Lexington Road]. On August 16, 1856 he mentions finding it at Pratt's location so obvious and abundant, perhaps the prevailing shrub over several acres of moist, rocky meadow pasture on the brook, growing in bunches three to five feet high among alders and hardhack, also noting that Elizabeth Hoar said that she had known it there since she was a child. Voucher specimen in NEBC (and in MASS) collected by Walter Deane on July 20, 1886 in low ground. Link to image.

Tephrosia virginiana (GM8: same; TH: same)

### GOAT'S-RUE

Pratt says this is rather rare, but found in all quarters of the town. Hosmer calls it not uncommon, noting it at Dugan Desert, Harrington Swamp and the Cliffs [Fairhaven]. Jarvis notes this on the hill [Punkatasset] back of Nathan Barrett's; abundant. Eaton says it is uncommon, known from three stations in the town. Specimen in Thoreau herbarium without date or locality. There are about 13 references to this in Thoreau's *Journal*. On July 10, 1857 he refers to this in flower by Peter's road in the woods. Most of the other *Journal* references appear to be to occurrence in the vicinity of Fair Haven Hill, and perhaps a couple refer to occurrence near the Old Marlborough Road. Eaton collected this on July 12, 1959 in dry, rocky woods very scarce on a flat shelf of dioritic outcropping opposite Martha's Point on right bank [looking downstream] of Sudbury River (BEDF specimen). Eaton also notes this in unpublished notes on September 17, 1961 at Powder Mill Road Springs west of Second Division Brook. Voucher specimen in NEBC (and in BEDF) collected by Eaton on August 14, 1957 on a steep, gravelly bank along the railroad in the railroad "cut" west of White Pond. Link to image.

THERMOPSIS VILLOSA (GM8: not included in this manual; TH: not treated in the manuals used by Thoreau)

Pratt, Hosmer and Eaton do not list this. No specimen in Thoreau herbarium. On August 25, 1979 this author found a dozen plants of this growing on the small vacant lot diagonally opposite Emerson Hospital at the Route 2 intersection. Voucher specimen in BEDF collected by this author in flower on June 28, 1980 at the site just noted. Image not available.

TRIFOLIUM ARVENSE (GM8: same; TH: same)

#### RABBIT'S-FOOT CLOVER

Pratt simply states that it flourishes in dry, sandy soils everywhere. Hosmer says it is very common. Eaton calls it common. Specimens in Thoreau herbarium without date or locality. There are about 14 references to this in Thoreau's *Journal*. John H. Gilbert collected this on July 25, 1963 at the Great Meadows National Wildlife Sanctuary (BEDF specimen). Voucher specimen in GH collected by C.M. Pomerat on July 20, 1930 along a roadside. <u>Link to image</u>.

TRIFOLIUM AUREUM (GM8: Trifolium agrarium; TH: Trifolium agrarium)

YELLOW CLOVER

Pratt states that this is becoming common on roadsides and fields. Hosmer and Eaton say this is common. No specimen in Thoreau herbarium. There are about six references to this in Thoreau's *Journal*. Voucher specimen in GH collected by David Potter and C.M. Pomerat on July 20, 1930 along a roadside. Link to image.

TRIFOLIUM CAMPESTRE (GM8: Trifolium procumbens; TH: Trifolium procumbens) LOW HOP CLOVER

Pratt says this is rare, occasionally found in land newly seeded to grass. Hosmer and Eaton say it is rather common. Specimen in Thoreau herbarium without date or locality. There are about three references to this in Thoreau's *Journal*. Jarvis notes this near Hosmer Bridge. Voucher specimen in NEBC collected by Eaton on July 8, 1958 at Clamshell Bluff abundant in dry, open soil. Link to image.

TRIFOLIUM HYBRIDUM (GM8: same, including var. elegans; TH: not treated in the manuals used by Thoreau)

ALSIKE CLOVER

Pratt lists this but only states that it is cultivated by some farmers. Hosmer says it is very common. Eaton calls it common. No specimen in Thoreau herbarium or reference to this in his *Journal*. Voucher specimen in NEBC collected by Walter Deane on July 13, 1893 at roadside. Link to image.

TRIFOLIUM PRATENSE (GM8: same, including var. sativum; TH: same)
RED CLOVER

Pratt simply states "cultivated." Hosmer says it is very common. Eaton calls it abundant. Specimens in Thoreau herbarium without date or locality. There are about 20 references to this in Thoreau's *Journal*. Voucher specimen in NEBC collected by Eaton on July 6, 1958 along a roadside. Link to image.

TRIFOLIUM REPENS (GM8: same; TH: same)

WHITE CLOVER

Pratt simply states roadsides and fields everywhere. Hosmer says it is very common. Eaton calls it abundant. Specimen in Thoreau herbarium without date or locality. There are about 15 references to this in Thoreau's *Journal*. Voucher specimen in BEDF collected by Laurence E. Richardson on June 2, 1960 at the foot of a ridge near Colonel Barrett's. Image not available.

VICIA CRACCA (GM8: same; TH: same)

COW VETCH

Pratt says this is abundant in the east part of the town. Hosmer and Eaton call it common. Specimen in Thoreau herbarium dated June 6 with no year or locality given. There are only two references specifically to this in Thoreau's *Journal*, but most or all of the six generic references to "vetch" are to this species. Jarvis notes this in meadow in front of E. Hosmer's house. Voucher specimen in NEBC collected by C.A. Weatherby on July 30, 1911 in a grassy meadow. Link to image.

VICIA SATIVA subsp. NIGRA (GM8: Vicia angustifolia var. segetalis; TH: Vicia sativa var. angustifolia)

SMALLER COMMON VETCH

Pratt does not list this. Hosmer simply states that this is in cultivated fields. Eaton says it is common. No specimen in Thoreau herbarium or reference to this in his *Journal*. Voucher specimen in NEBC collected by Emile F. Williams on June 20, 1908 in grassland. <u>Link to image</u>.

VICIA TETRASPERMA (GM8: same; TH: same, Vicia pusilla) SPARROW VETCH

Pratt and Hosmer do not list this. Eaton says it is rather common. No specimen in Thoreau herbarium. There is one reference to this in Thoreau's *Journal*. On October 22, 1859 he believes he has found this in the field behind the top of Fairhaven Cliffs. Eaton collected this on June 20, 1958 on a moist bank along the railroad near the Monument Street railroad crossing (BEDF specimen). Voucher specimen in NEBC (and in BEDF) collected by Eaton on July 2, 1936 in a fallow field at Clamshell Bluff. Link to image.

WISTERIA FLORIBUNDA (GM8: same; TH: not treated in the manuals used by Thoreau) JAPANESE WISTERIA

Pratt, Hosmer and Eaton do not list this. No specimen in Thoreau herbarium or reference to this in his *Journal*. Cole Winstanley reports finding a vigorous colony of this in a drainage cut at the remnants of a bog east of the northern end of Angier's Pond in Aug. 2015. Voucher specimens in NEBC (and in BEDF) collected by this author on May 28, 1983 at the Kalmia latifolia and Rhododendron plantation on the southwest slope of Punkatasset Hill abundantly escaped in a neglected terrace at the edge of woods. Link to image.

**Fagaceae** (GM8: same; TH: Cupuliferae (in part)) Castanea dentata (GM8: same; TH: Castanea vesca)

AMERICAN CHESTNUT

Pratt says this is common in all quarters. Hosmer calls it common. Eaton says it is still common as sprouts from trees destroyed by the chestnut blight [in the early decades of the 20<sup>th</sup> century]. Specimens in Thoreau herbarium without date or locality. There are about 237 references to this in Thoreau's Journal. Edward Hoar collected this in June or July of 1857 on the road to Marlboro [Route 62] (NEBC specimen). As Eaton notes in his Flora, surviving sprouts of this will occasionally grow into small trees large enough to flower and sometimes bear burs. This author collected this with Mary M. Walker on July 7 (flowers) and September 1 (fruit), 1978 and January 28, 1979 (buds) at Goose Pond (BEDF specimen). Even though this author collected a good-sized box of these burs in the late 1970s and opened a good number them, none were found containing an actual nut. The best area this author found for these flowering small trees was in the woods near the Goose Ponds. It was surprising to see there some of the burs on the ground carefully picked apart, apparently by squirrels, with no reward, so that somehow that tribe retains some instinctive memory of tasty morsels inside the spiny package. Brian A. Connolly collected this with fruit on October 3, 1993 in upland oak woods at Walden Pond (specimen in herbarium of Connecticut College at New London). Voucher specimen in NEBC collected by Eaton on July 22, 1935 in flower in dry scrub of the Concord Town Forest. Link to image.

Fagus grandifolia (GM8: same; TH: Fagus ferruginea)

AMERICAN BEECH

Pratt says this is rare, with a few trees on a rocky ledge south of Bateman's Pond, and one or two on Fairhaven Hill. Hosmer lists this without comment. Eaton calls it scarce. Two specimens in Thoreau herbarium without date or locality. There are about 60 references to this in Thoreau's *Journal*, many referring to occurrence in Lincoln, MA. On August 16, 1978 this author found a stand of it along the upper reaches of Second Division Brook. On September 1, 1979 this author found a tree of this under cliffs south of the main Bemis cliffs off Strawberry Hill Road north of Annursnack Hill. On October 17, 1980 this author found a tree of this north of J. [ames] P. Brown's Pool. Also, this author found this on May 19,

1983 past flowering in the vicinity of Ball's Hill. Cherrie Corey reported (2014) finding this in the upper Spencer Brook valley, in Moore's Swamp and the Estabrook Woods. In May 2016 Cole Winstanley reported this as now common having seen young trees in 20 locations and mature ones at the sites listed above in addition to just east of the Palumbo Farm along Rte 2A near the Lincoln line. Voucher specimen in NEBC collected by Eaton on July 17, 1957 in cool, low woods at the west end of Little Goose Pond. Link to image.

Quercus alba (GM8: same; TH: same)

WHITE OAK

Pratt, Hosmer and Eaton say this is common. Specimen in Thoreau herbarium without date or locality. There are about 306 references to this in Thoreau's *Journal*. Eaton collected this on June 2, 1963 at roadside in well-drained gravel near the corner of Route 2 and Walden Road (NEBC specimen). Voucher specimen in NEBC collected by Eaton on June 7, 1935 in dryish woods in the Concord Town Forest. Link to image.

Quercus bicolor (GM8: same; TH: same, Quercus prinus var. discolor) SWAMP WHITE OAK

Pratt says this is rather common, noting it on the river banks just above the old Monument [Old North Bridge eastern and southern side] and roadside west of Middlesex Central Railroad depot. Hosmer and Eaton call it common. Specimen in Thoreau's herbarium without date or locality. There are about 138 references to this in Thoreau's *Journal*. Colleen M. Handel collected this on June 30, 1972 on the north bank of Hutchins Pond in the Estabrook Woods (BEDF specimen). Lynn A. Maguire and Phil Nelson collected this on July 3, 1972 at the north end of a temporary pool south of Mink Pond (BEDF specimen). Voucher specimen in NEBC collected by Edward Hoar on July 8, 1857 at the North Branch [Assabet River]. Link to image.

Quercus coccinea (GM8: same; TH: same)

SCARLET OAK

Pratt states that this is sparsely scattered through woods in all quarters. Hosmer strangely does not list this. Eaton says it is frequent. Specimen in Thoreau herbarium without date or locality. There are about 113 references to this in Thoreau's *Journal*. Edward Hoar collected this on June 26, 1857 on the road to Marlboro [Route 62] (NEBC specimen). Laurence E. Richardson collected this on May 11 and September 1 (fruit), 1970 at a bank of the Assabet River (BEDF specimen). Voucher specimen in GH collected by M.L. Fernald on October 3, 1909 along a dry roadside. Link to image.

Quercus ilicifolia (GM8: same; TH: same)

SCRUB OAK

Pratt and Eaton say this is common. Hosmer strangely does not list this. Specimen in Thoreau herbarium without date or locality. There are about 286 references to this in Thoreau's *Journal*. This was certainly Thoreau's favorite shrub (if not plant) as evidenced by just a small sample of his thoughts: -- "I love and could embrace the shrub oak with its scanty garment of leaves rising above the snow, lowly whispering to me, akin to winter thoughts, and sunsets, and to all virtue." (December 1, 1856) and "I should not be ashamed to have a shrub oak as my coat-of-arms." (January 7, 1857). Eaton collected this on June 7, 1935 in dry woods in the Town Forest, and on June 2, 1967 in dry scrub oak woods in the Walden Pond woods (NEBC specimens). Cole Winstanley (2014) reported this still to be widespread in Concord, for example, at Warner's Pond, Brister's Hill, Fairhaven Hill, Emerson's ridge, Concord-Carlisle High school area, and Newbury Field (near Lowell Road). Voucher specimen in NEBC collected by Edward Hoar in June or July (no year) on the road to Marlboro [Route 62]. Link to image.

Quercus montana (GM8: Quercus prinus; TH: same, Quercus prinus var. monticola) CHESTNUT OAK

Pratt says this (mistakenly referred to as "Quercus castanea" which is the modern Quercus muhlenbergii, not recorded from central or eastern Massachusetts) is rare, only seen near the Assabet River, at the foot of Hurd's Hill [Nashawtuc Hill]. Pratt also refers to "Quercus prinus (Swamp Chestnut Oak)" for which see Appendix E. Hosmer lists this only for Stow, MA. Eaton says this is rare, known only as a mature tree and several sprouts and saplings at a single station. Specimens in Thoreau herbarium are not from Concord, and one without locality or date. There are about 22 references to this in Thoreau's *Journal*, all apparently to occurrence outside Concord. In unpublished notes Eaton says that he collected a specimen (now missing) from a young sapling in low woods near brook on north side of Cambridge Turnpike, below G. Root's ice pond [Crosby Pond] in 1955. This author collected it on October 17, 1980 north of J.[ames] P. Brown's Pool (vicinity of Arrowhead Farm) near a beech tree (BEDF specimen). Voucher specimen in NEBC collected by Laurence E. Richardson on October 16, 1961 in dry oak woods southeast of Fairhaven Hill along the Fairhaven Road extension. Link to image.

QUERCUS PALUSTRIS (GM8: same; TH: same)
PIN OAK

Pratt lists this as one of several oaks for which there was but a single tree growing. Hosmer and Eaton do not list this. Specimen in Thoreau herbarium not from Concord. There are two references to this in Thoreau's *Journal*, neither of which are to occurrence in Concord. On September 9, 1979 this author found a single mature tree near Mill Brook not far from the Town Forest and away from habitation. This author also found this escaped at the Lowell Bridge causeway. On September 2, 2014 Cole Winstanley found a reproducing station for this in a muddy swamp along Keyes Road near the Department of Public Works. Voucher specimen in NEBC collected on August 20, 2014 by Cole Winstanley, this author and Erika Sonder at the Lowell Bridge causeway on the bank of the causeway and at the edge of the river floodplain. Link to image.

Quercus prinoides (GM8: same; TH: same, Quercus chinquapin)

DWARF CHINQUAPIN OAK

Pratt says this is abundant in dry soil, noting it at Punkatasset Hill and in woods in the southwest quarter of the town. Hosmer calls it common. Eaton says it is common in suitable habitats. Specimen in Thoreau herbarium without date or locality. There are about 35 references to this in Thoreau's *Journal*. In unpublished notes Eaton says it is rather common in the Goose Pond - Walden Pond area, and occurs sparingly elsewhere. Eaton collected this on July 13, 1935 in dry, gravelly scrub woods in the Concord Town Forest, and on June 2, 1967 in dry scrub oak woods in the Walden Pond woods (NEBC specimens). In October 2015 Cole Winstanley found three stations of this in the Brister's Hill area. Voucher specimen in NEBC collected by Edward Hoar on June 26, 1857 on the road to Marlboro [Route 62]. Link to image.

Quercus rubra (GM8: same; TH: same)

RED OAK

Pratt and Hosmer say this is common. Eaton calls it abundant. Specimen in Thoreau herbarium without date or locality. There are about 156 references to this in Thoreau's *Journal*. S. Boson collected this on May 25, 1929 at Walden Pond (GH specimen). Eaton collected this on July 13, 1935 in dry woods in the Concord Town Forest (NEBC specimen). Laurence E. Richardson collected this on May 24, 1960 at an Assabet River bank (BEDF

specimen). Voucher specimen in NEBC collected by Edward Hoar on September 8, 1857 on the shore of the North Branch [Assabet River]. Link to image.

Quercus velutina (GM8: same; TH: Quercus tinctoria) BLACK OAK

Pratt and Eaton say this is common. Hosmer strangely does not list this. Specimen in Thoreau herbarium without date or locality. There are about 147 references to this in Thoreau's *Journal*. Eaton collected this on June 7, 1935 on dry banks and woods in the Town Forest, and on June 2, 1967 on well-drained gravel at roadside near the corner of Route 2 and Walden Road (NEBC specimens). Voucher specimen in NEBC collected by Edward Hoar on June 26, 1857 along the Road to Marlboro [Route 62]. Link to image.

**Gentianaceae** (GM8: Gentianaceae (in part); TH: Gentianaceae (in part))
Bartonia paniculata subsp. paniculata (GM8: same; TH: Centaurella moseri)
SCREW-STEM

Pratt and Hosmer do not list this. Eaton says this is rare. No specimen in Thoreau herbarium or reference to this in his *Journal*. Jarvis reports this on August 18, 1836 in a meadow north of F. Jarvis one quarter mile. Voucher specimen in NEBC collected by Eaton on July 25, 1957 in a sphagnous opening in low woods near the shore of Bateman's Pond on the east side -- the first vouchered record of this from Middlesex County. <u>Link to image</u>.

Bartonia virginica (GM8: same; TH: Bartonia tenella)

Pratt simply notes this north of Punkatasset Hill. Hosmer does not list this. Eaton says it is frequent. Specimen in Thoreau herbarium without date or locality. There are about five references to this in Thoreau's *Journal*. On August 8, 1852 he refers to this in a path in Ministerial Swamp. On July 31, 1856 he mentions it in flower five rods from a ditch in or near A. Wheeler's meadow, three rods from Potter's fence. Eaton collected this on September 15, 1928 in low peaty ground at Ministerial Swamp (NEBC specimen). Voucher specimen in NEBC collected by Eaton on July 23, 1922 in a boggy meadow in peaty soil near Jenny Dugan Brook at the 8<sup>th</sup> hole of the Concord Country Club. Link to image.

CENTAURIUM ERYTHRAEA (GM8: Centaurium umbellatum; TH: Erythraea centaurium)

Pratt does not list this. Hosmer simply notes it at Cemetery [Sleepy Hollow]. Eaton says it is rare. No specimen in Thoreau herbarium or reference to this in his *Journal*. Voucher specimen in NEBC collected by Hosmer without date or locale within Concord. <u>Link to image</u>.

Gentiana andrewsii var. andrewsii (GM8: same; TH: same, but including Gentiana clausa) Pratt simply notes this or Gentiana clausa as abundant on the borders of the river near the bridge on Monument Street. Hosmer says this or Gentiana clausa is common [in the Concord vicinity]. Eaton calls this rare, known from two stations, but each of which are based on misidentified Gentiana clausa (his two BEDF specimens under that species name). Specimens in Thoreau herbarium without date or locality. There are about 17 references to this or Gentiana clausa in Thoreau's *Journal*. Edward Hoar collected this on the riverbank [Sudbury River] at the foot of his garden in September 1858 (NEBC specimen). Voucher specimen in NEBC (and in GH) collected by Emile F. Williams on September 20, 1896 in a wet, open meadow. Link to image.

Gentiana clausa (GM8: same; TH: not distinguished from Gentiana andrewsii in the manuals used by Thoreau)

#### **BOTTLE GENTIAN**

Pratt simply notes this or Gentiana andrewsii as abundant on the borders of the river near the bridge on Monument Street. Hosmer says this or Gentiana andrewsii as common [in the Concord vicinity]. Eaton says this is occasional. Specimen in Thoreau herbarium without date or locality. There are about 17 references to this or Gentiana andrewsii in Thoreau's *Journal*. Eaton collected this on September 11, 1932 in a peaty meadow at the Concord Country Club, and on September 17, 1961 on the grassy bank of Second Division Brook in deciduous woods near a broken down bridge over that brook beside Powder Mill Road (NEBC specimens). Eaton also collected this on September 8, 1957 at the upper edge of a peaty meadow below the east side of Ball's Hill, and on August 4, 1920 in a moist ditch among shrubs along the Lowell Railroad near the power station, noting it is the same station where Emile F. Williams collected the voucher specimen noted below (BEDF specimens). This author found 24-36 plants of this in flower on September 7, 1979 on a dike opposite the club house of the Musketaquid Sportsman's Club. In unpublished notes Eaton indicates this same station. Voucher specimen in NEBC collected by Emile F. Williams on October 24, 1897 along Lowell Railroad ditch. Link to image.

# Gentianopsis crinita (GM8: Gentiana crinita; TH: Gentiana crinita) FRINGED GENTIAN

Pratt says this is rather common. Hosmer also calls this rather common, noting it at Bateman's [Pond], Hayward Swamp, etc. Eaton says it is occasional, often transient at a station. Specimens in Thoreau herbarium without date or locality. There are about 38 references to this in Thoreau's *Journal*. He records it from a number of places including the Painted Cup Meadow and Hubbard's Close. Jarvis notes this at the North Bridge and near Caesar's. J.M. Greenman collected this on October 24, 1891 near the Reformatory Station [not far from and possibly the same station as the Rich voucher specimen] (GH specimen). Laurence E. Richardson collected this on September 14, 1961 at Virginia Road near the Thoreau birth site (BEDF specimen). Voucher specimen in GH collected by William P. Rich on October 24, 1897 in a wet meadow south of Annursnack Hill [almost certainly Thoreau's Painted Cup Meadow]. Link to image.

#### **Geraniaceae** (GM8: same: TH: same)

ERODIUM CICUTARIUM subsp. CICUTARIUM (GM8: same; TH: same)

Pratt and Hosmer do not list this. However, Hosmer collected this in Concord in 1903 without specific locale given (NEBC specimen). Eaton says it is occasional, sometimes weedy. No specimen in Thoreau herbarium or reference to this in his *Journal*. Specimen in NEBC collected by Hosmer identified by him as Erodium moschatum. Laurence E. Richardson collected this on May 19, 1960 at the foot of a ridge near Colonel Barrett's (BEDF specimen). Voucher specimen in NEBC collected by Eaton on June 1, 1960 at the edge of a cultivated field between Barrett's Mill Road and Strawberry Hill Road where abundant. <u>Link</u> to image

Geranium maculatum (GM8: same; TH: same)

WILD GERANIUM

Pratt simply notes habitat. Hosmer says it is very common. Eaton calls it common. Specimens in Thoreau herbarium without date or locality. There are about 29 references to

this in Thoreau's *Journal*. Voucher specimen in GH collected by Fred A. Barkley and Kamit B. Eltigani on May 18, 1968 in an open, upland, wooded area one mile north of Concord. <u>Link</u> to image.

GERANIUM ROBERTIANUM (GM8: same; TH: same)

HERB-ROBERT

Pratt says he introduced this from Mt. Wachusett, to Conantum and other places. Hosmer only mentions it at the Millrace [Thoreau mill site in Estabrook Woods]. Eaton says it is rare. Specimens in Thoreau herbarium without date or locality or from Pratt's garden. There are about four references to this in Thoreau's *Journal*, none of which are to wild occurrence in Concord. On May 24, 1980 this author photographed it in flower at the Thoreau mill site in the Estabrook Woods, obviously one of the sites Pratt introduced this and the site mentioned by Hosmer. Voucher specimen in NEBC collected by Hosmer with no date or locale in Concord. Link to image.

**Grossulariaceae** (GM8: Saxifragaceae (in part); TH: same)

RIBES AUREUM var. VILLOSUM (GM8: Ribes odoratum; TH: Ribes aureum) BUFFALO CURRANT

Pratt and Hosmer do not list this. Eaton says it is rare. Specimen in Thoreau herbarium without date or locality. There are about 11 references to this in Thoreau's *Journal*, none of which appear to be to wild occurrence. This author saw it along Lexington Road, but perhaps not clearly an escape from cultivation. Laurence E. Richardson collected this the day before Eaton's voucher specimen at the same site (BEDF specimen). Voucher specimen in BEDF collected by Eaton on May 9, 1960 on a dry bank on the top of a dyke at the filter beds, spreading by natural layering. Image not available.

Ribes hirtellum (GM8: same: TH: same)

SMOOTH GOOSEBERRY

Pratt says it is found frequently in moist, rocky places. Hosmer calls it common. Eaton says it was formerly common, but much less frequent due to purposeful eradication efforts in order to control pine-tree blister. Specimen in Thoreau herbarium without date from J.[ames] P. Brown's [property in Concord], and one not from Concord. There are about 74 references to this in Thoreau's *Journal* counting references just to gooseberry, since this is the only native gooseberry in Concord. Laurence E. Richardson collected this on June 4, 1961 at the White Pond bog (BEDF specimen). On April 23, 1979 this author found it in wet woods east of the railroad track near White Pond bog. Voucher specimen in NEBC collected by Eaton on May 18, 1935 in a swamp near Walden Street in the Town Forest. Link to image.

RIBES RUBRUM (GM8: Ribes sativum; TH: same)

**RED GARDEN CURRANT** 

Pratt does not list this. Hosmer says this is common. Eaton calls it formerly frequent, but much less frequent due to purposeful eradication efforts in order to control pine-tree blister. No specimen in Thoreau herbarium. There are about five references to this in Thoreau's *Journal*, none of which are clearly to wild occurrence. This author saw it in various places in Concord and collected it in rich woods on the north side of Nashawtuc Hill on May 6, 1981 (flowering) and on June 24, 1982 (in fruit) from the same tagged plant, a number of shrubs up to 1 meter high (BEDF specimen). Voucher specimen in NEBC collected by Eaton on May 18, 1935 in a swamp near Walden Street in the Town Forest. Link to image.

Haloragaceae (GM8: same; TH: Onagraceae (in part))

Myriophyllum humile (GM8: same; TH: Myriophyllum ambiguum, including var. limosum and var. natans)

Pratt does not list this. Hosmer simply notes its habitat. Eaton says it is common, often abundant. Specimens in Thoreau herbarium without date or locality. There are about six references to this in Thoreau's *Journal*. On August 18, 1854 he notes it at Beck Stow's Swamp. On September 1, 1858 he mentions seeing it in a pool by the oaks behind Pratt's house. On July 29, 1859 he refers to it in the Sudbury River on his way to Fairhaven Hill. On August 1, 1859 he notes finding it at another place in the Sudbury River. Walter Deane collected this on October 9, 1886 in the Sudbury River (NEBC specimen). Eaton and Ludlow Griscom collected this on August 25, 1931 submersed in Goose Pond (NEBC specimen). G.B. Rossbach collected this on October 1, 1933 at Bateman's Pond (NEBC specimen). Eaton collected this on September 22, 1957 in white sand at the top of a steep beach on the northwest side of Walden Pond near Thoreau's Cove in a year of the driest four month period ever recorded for May-September (NEBC and BEDF specimens). Voucher specimen in NEBC collected by Edward Hoar on September 1, 1858 at a pond hole, most likely the one corresponding to Thoreau's *Journal* reference of that date. Link to image.

Myriophyllum verticillatum (GM8: same, including var. pectinatum; TH: same)
Pratt, Hosmer and Eaton do not list this. No specimen in Thoreau herbarium or reference to it in his *Journal*. Voucher specimen in NEBC collected by Walter Deane on October 9, 1886 in the Sudbury River. Link to image.

Proserpinaca palustris (GM8: same, including var. crebra; TH: same)

Pratt does not list this. Hosmer says this is common. Eaton calls this common. Specimens in Thoreau herbarium without date or locality. There are about 14 references in Thoreau's *Journal* to this. Walter Deane collected this on October 9, 1886 in the Sudbury River (NEBC specimen). Eaton collected this on August 7, 1957 in a meadow bordering Spencer Brook (NEBC specimen). Laurence E. Richardson collected this on August 15, 1968 at Warner's Pond (BEDF specimen). C.B. Hellquist collected this on August 4, 1970 in a swamp at the southern shore of the Sudbury River west of Route 2 (MASS specimen). Voucher specimen in NEBC collected by Edward Hoar in September 1857 in pond hole near "Concord Cliffs" [most likely Fairhaven Cliffs]. Link to image.

**Hamamelidaceae** (GM8: same (in part); TH: Hamamelaceae (in part)) Hamamelis virginiana (GM8: same; TH: Hamamelis virginica) WITCH-HAZEL

Pratt simply notes this on the borders of Bateman's Pond and thickets near the Estabrook place. Hosmer says it is common. Eaton calls it frequent. Specimens in Thoreau herbarium without date or locality. There are about 70 references to this in Thoreau's *Journal*. Jarvis notes this near Annursnack Hill, where this author also saw it in the 1970s/80s to the north of that hill along a railroad bed. This author saw it in various places including Bateman's Pond and not far from the Rhododendron prinophyllum site near Nashawtuc Hill. Lynn A. Maguire and Phil Nelson collected it on July 19, 1972 in low, moist woods beneath yellow birch, maple and ash near the swamp south of Tanager Trail in the Estabrook Woods (BEDF specimen). Voucher specimen in NEBC collected by Eaton on May 18, 1935 on a dry slope in a thicket near the northeast side of the pond in the Town Forest. Link to image.

**Hydrangeaceae** (GM8: Saxifragaceae (in part); TH: Saxifragaceae (in part))

HYDRANGEA PANICULATA (GM8: same; TH: not treated in the manuals used by Thoreau) Pratt and Hosmer do not list this. Eaton lists this only in an appendix as very unlikely in Concord. No specimen in Thoreau herbarium or reference to this in his *Journal*. On March 22, 1981 this author found it thriving in a small swamp in the vicinity of Pratt's residence. Voucher specimens in NEBC and BEDF collected by this author on July 16, 1981 in flower from a small swamp near the Pratt residence, north of Red Coat Lane. Link to image.

## **Hypericaceae** (GM8: Guttiferae; TH: same)

Hypericum boreale (GM8: same; TH: not scientifically described until 1891, would have been included in Hypericum mutilum)

Pratt and Hosmer do not list this. Eaton says it is common. No specimen in Thoreau herbarium. His *Journal* references to Hypericum mutilum might include this. Voucher specimen in NEBC collected by Eaton on August 2, 1930 in muddy place on his woodlot at Goose Pond. Link to image.

Hypericum canadense (GM8: same; TH: same)

Pratt says this is rather common. Hosmer calls it very common. Eaton says it is frequent. Specimen in Thoreau herbarium (identified by Walter Kittredge) collected on August 10, 1856 along "Shrew path" while in the vicinity of Fair Haven Hill, and other specimens without date or locality. There are about 18 references to this in Thoreau's *Journal* and about another seven references to the misapplied names of Hypericum angulosum and Hypericum angulatum might include this. Eaton collected this on August 7, 1932 on a muddy shore of Goose Pond (NEBC specimen). Laurence E. Richardson collected this on August 24, 1960 at the wet edge of the bog south of Walden Pond (BEDF specimen). Voucher specimen in NEBC collected by Edward Hoar on August 22, 1857 along the road to Bedford. Link to image.

HYPERICUM DENSIFLORUM (GM8: same; TH: Hypericum prolificum var. densiflorum) Pratt and Hosmer do not list this. Eaton says it is rare. No specimen in Thoreau herbarium or reference to this in his *Journal*. Voucher specimen in NEBC collected by Eaton on July 18, 1934 in a sandy field at Clamshell Bluff; station destroyed by later building operation. <u>Link</u> to image.

Hypericum ellipticum (GM8: same; TH: same)

Pratt and Eaton say this is common. Hosmer lists this without comment. Specimens in Thoreau herbarium without date or locality. There are about 13 references to this in Thoreau's *Journal*. Eaton collected this on July 4, 1920 in a meadow along a brook [likely Jenny Dugan Brook] at the Concord Country Club (NEBC specimen), on June 19, 1921 in Wheeler's Meadow east of Nashawtuc Hill (BEDF specimen), and on July 7, 1960 in low gravel on a dyke in a river meadow at Great Meadows National Wildlife Refuge (BEDF specimen). Voucher specimen in GH collected by Fred G. Floyd on August 17, 1902 abundant in a wet meadow at Second Division Brook. Link to image.

Hypericum gentianoides (GM8: same; TH: Hypericum sarothra, Sarothra gentianoides) PINEWEED

Pratt simply notes habitat. Hosmer says this (as Hypericum nudicaule) is very common. Eaton calls it common. Specimens in Thoreau herbarium without date or locality. There are about 23 references to this in Thoreau's *Journal*. Jarvis collected this on August 1, 1834 near Jacob Farmer's (MASS specimen). Eaton collected this on August 2, 1930 along a dry, wood road on his woodlot [near Goose Pond] (BEDF specimen). Voucher specimen in NEBC

collected by Edward Hoar on August 24, 1857 at the road on the east shore of Walden Pond. Link to image.

Hypericum majus (GM8: same; TH: not treated in the manuals used by Thoreau and would have been included in Hypericum canadense)

Pratt and Hosmer do not list this. Eaton says this is common. Specimens in Thoreau herbarium without date or locality. About seven references in Thoreau's *Journal* to the misapplied names of Hypericum angulosum and Hypericum angulatum likely include this. Voucher specimen in BEDF collected by Eaton on August 2, 1930 on low, wet ground on his woodlot at Goose Pond. Image not available.

Hypericum mutilum subsp. mutilum (GM8: same, including var. parviflorum; TH: same (in part))

Pratt says this is common, including Hypericum boreale. Hosmer does not list this. Eaton calls it common, sometimes weedy. Specimens in Thoreau herbarium without date or locality. There are about 18 references to this in Thoreau's *Journal*, including Hypericum boreale. Voucher specimen in NEBC collected by Eaton on August 5, 1961 in moist gravel of the middle dyke at Great Meadows Wildlife Refuge where abundant. Link to image.

HYPERICUM PERFORATUM subsp. PERFORATUM (GM8: same; TH: same) COMMON ST. JOHN'S-WORT

Pratt says this is a common weed. Hosmer and Eaton call it very common. Specimens in Thoreau herbarium without date or locality. There are about 12 references to this in Thoreau's *Journal*. Voucher specimen in NEBC collected by Eaton on July 4, 1920 in a dry field in the rough of along the 7<sup>th</sup> hole of the Concord Country Club. Link to image.

HYPERICUM PROLIFICUM (GM8: Hypericum spathulatum; TH: same) SHRUBBY ST. JOHN'S-WORT

Pratt and Hosmer do not list this. Eaton calls it rare. Specimen in Thoreau herbarium dated September 26, 1857 in "Munroe's garden," almost certainly referring to Francis Munroe (1814-1870) who lived on Main Street near Thoreau, name often given incorrectly as "Monroe." There is one reference to this in Thoreau's Journal. On September 26, 1857 he refers to it still in flower in Monroe's [sic] garden. On June 22, 1979 this author found it at what remained of Clamshell Bluff, numerous plants at the edge of an old field, and collected it there July 31, 1979 in flower (BEDF specimen). Voucher specimen in BEDF collected by Eaton on July 18, 1934 at Clamshell Bluff where abundant, but later destroyed according to Eaton by building operation [but see above note for this author's relocation of it there]. Image not available.

Hypericum punctatum (GM8: same; TH: Hypericum corymbosum) SPOTTED ST. JOHN'S-WORT

Pratt calls this less common than Hypericum perforatum. Hosmer (as Hypericum maculatum) and Eaton say it is common. Specimens in Thoreau herbarium without date or locality. There are about 11 references to this in Thoreau's *Journal*. Jarvis notes this in damp woods near factory. Eaton collected this on August 7 and 12, 1957 along a wood road at the east end of Bateman's Pond, and on July 31, 1958 in a low, moist glade in deciduous woods off a wood road running eastwards from Strawberry Hill Road (BEDF specimens). Voucher specimen in NEBC collected by Walter Deane on July 19, 1886 along a shady roadside. Link to image.

Triadenum virginicum (GM8: Hypericum virginicum; TH: Elodea virginica, Hypericum virginicum)

MARSH ST. JOHN'S-WORT

Pratt simply notes habitat. Hosmer says it (as Elodes campanulata) is common. Eaton also calls it common. Specimens in Thoreau herbarium without date or locality. There are about

15 references to this in Thoreau's *Journal*. Eaton records collecting this on July 4, 1920 in a meadow of Jenny Dugan Brook at the Concord Country Club (specimen missing). Voucher specimen in BEDF collected by Eaton on September 6, 1957 in wet, peaty ground. Image not available.

## Juglandaceae (GM8: same; TH: same)

Carya glabra (GM8: same + Carya ovalis, including var. obcordata; TH: same)
PIGNUT HICKORY

Pratt says this is common in all parts of the town. Hosmer calls it (as Carya porcina) common. Eaton says it is frequent. Specimen in Thoreau herbarium without date or locality. There are about 26 references specifically to this in Thoreau's *Journal*, but the overwhelming majority of the approximately 174 references by him to the generic "hickory" are to this species. Eaton collected this on June 7, 1935 in dry woods in the Town Forest, on August 3, 1957 in rich woods on the east side of Bateman's Pond, on December 14, 1962 in dry, rocky ground at roadside on Strawberry Hill Road, and on July 7, 1964 at the edge of woods at the base of the northwest side of Nashawtuc Hill (NEBC and BEDF specimens). Eaton also collected this with Laurence E. Richardson on September 30, 1963 on a hillside pasture on Annursnack Hill (Arnold Arboretum specimen). Voucher specimen in NEBC collected by Eaton on September 22, 1965 in dry, rocky woods at Martha's Point. Link to image.

CARYA OVATA var. OVATA (GM8: same; TH: Carya alba)

#### SHAGBARK HICKORY

Pratt says: "I know of but one old tree in Concord, and that is said to have been planted about 1817, by Francis Hunt; it stands in front of the barn now owned by Wm. Hunt, on Ponkatasset [Hill]. There are other <u>young</u> trees in that neighborhood." Hosmer simply notes it at Punkatasset Hill. Eaton says it was formerly common, but now scarce. No specimen in Thoreau herbarium. There are 10 references to this in Thoreau's *Journal*, all under the common name "shagbark" and none of them are to occurrence in Concord. In spite of Eaton's treatment of this as native to Concord and his recollection of it as formerly common, this author finds the evidence of those who would best know, Pratt and Thoreau, to be compelling that this did not grow as a native species in their time, so that all occurrence in their time and later is by introduction. This author collected it on September 12, 1975 with Mary M. Walker from a small tree at roadside in woods in the Town Forest near its northern border on Walden Street (BEDF specimen), the same locale as Eaton's voucher specimen. In September 2015 Cole Winstanley reported seeing young trees of this in woods west of White Pond near the Sudbury line and west of the railroad tracks. Voucher specimen in NEBC collected by Eaton on June 22, 1935 at roadside on Walden Street in the Town Forest. Link to image.

Carya tomentosa (GM8: same; TH: same)

## MOCKERNUT HICKORY

Pratt says this is common in rich woods, especially on Annursnack [Hill]. Hosmer does not list this. Eaton calls it uncommon, being at or near the northeastern limit of its range. No specimen in Thoreau herbarium. There are about 21 references to this in Thoreau's *Journal*. He found them on Poplar Hill and the summit of Conantum. This author saw it most often in the general vicinity of Walden and Goose Ponds in the late 1970s. Voucher specimen in NEBC (and in BEDF) collected by Eaton on July 30, 1959 on the south slope of Annursnack Hill. Link to image.

Juglans cinerea (GM8: same; TH: same)
BUTTERNUT

Pratt says this is not common. Hosmer lists this without comment. Eaton calls it local, occurring at two stations. Specimens in Thoreau herbarium without date or locality. There are 24 references to this in Thoreau's Journal. This author found it along Strawberry Hill Road in 1982 and at the edge of a Keyes Road parking lot (7 feet, one inch in girth breast height, about 58 feet high, on October 25, 1981). In unpublished notes Eaton refers to an old and dying tree 5 feet and 2 inches in circumference at breast height with many young trees and saplings, all in the vicinity of Angier's Mill on Barrett's Mil Road. In Sept. 2015 Cole Winstanley found a few young trees in a ditch by the railroad tracks north of Powder Mill Road. In 2021 Richard Forman reported a grove of this in woods behind Crosby's Market on Sudbury Road and more by a field between the railroad and Sudbury Road. Voucher specimen in NEBC (and in BEDF) collected by Eaton on August 7, 1957 in low ground at the edge of small woods near Flint's Bridge on Monument Street. Link to image.

JUGLANS NIGRA (GM8: same; TH: same)

**BLACK WALNUT** 

Pratt says: "Not a native to Concord. One large tree on Ponkatasset [Punkatasset Hill], planted by the late Daniel Hunt, and a few set in front of Geo. Keyes's by the late Simon Brown." Hosmer lists this without comment. Eaton says this is known in Concord as a single colony, ranging in size from seedlings to well-grown trees; originated from three lawn specimens planted about 1850, now destroyed. No specimen in Thoreau herbarium. There are about 10 references in Thoreau's *Journal* specifically to this. Eaton's collection of this from the Town Forest is apparently from planted specimens (NEBC). This author collected it on September 30, 1980 near roadside off Liberty Street near Lowell Road, where Laurence E. Richardson also collected it on May 19, 1970 (both BEDF specimens). In 2021 Richard Forman reported trees of this apparently planted by various fields in the town with some saplings growing in nearby woods, and also in the Bear Garden Hill Woods east of the Souter Field of the Concord Land Conservation Trust and at the Miller Farm land by Powder Mill Road at the northwest end of the Nine Acre Corner fields. Voucher specimen in NEBC collected by Laurence E. Richardson on May 21, 1970 at the site referred to by Eaton above on Bow Street (Keyes property) where it was weedy with seedlings. Link to image.

### **Lamiaceae** (GM8: Labiatae: TH: Labiatae)

AJUGA REPTANS (GM8: same; TH: not treated in the manuals used by Thoreau)
Pratt and Hosmer do not list this. Eaton says it is locally abundant. No specimen in Thoreau herbarium. Voucher specimen in NEBC collected by Laurence E. Richardson on June 1, 1970 in lawn and under pine trees. Link to image.

Clinopodium vulgare (GM8: Satureja vulgaris var. neogaea; TH: same, Calamintha clinopodium)

Pratt notes this (as Calamintha clinopodium) at borders of thickets and fields, especially in the neighborhood of Punkatasset Hill. The *Flora of Middlesex County, Massachusetts* (1888) simply notes two towns for this including the report from Concord by Pratt. Hosmer does not list this, but in a *Rhodora* publication he listed it as an introduction by Pratt (but not acknowledged by Pratt as introduced by him). Eaton lists this only in an appendix as unlikely in Concord. Specimen in Thoreau herbarium not from Concord. There are two references to his in Thoreau's *Journal*, but not to occurrence in Concord. Minot Pratt collected this without date or locale within Concord (BEDF specimen). Voucher specimen in BEDF collected by

Laurence E. Richardson on June 19, 1960 at Annursnack Hill (misidentified as Monarda fistulosa). Image not available.

Collinsonia canadensis (GM8: same; TH: same)

Pratt and Hosmer do not list this. Eaton lists this only in an appendix as very unlikely in Concord. Two specimens in Thoreau herbarium without date or locality. There are about six references to this in Thoreau's *Journal*. On August 31, 1851 Thoreau records finding this plant new to him in the Cohush Swamp at Conantum. All later *Journal* references are to occurrence at this site. Thoreau's herbarium specimens in GH are accepted as the voucher for this species in Concord since his *Journal* does not refer to it anywhere outside of Concord. Link to image.

GALEOPSIS BIFIDA (GM8: Galeopsis tetrahit var. bifida; TH: not distinguished in the manuals used by Thoreau, would have been included in Galeopsis tetrahit)

Pratt does not list this. Hosmer simply notes this on Bedford Road. Eaton lists this only in an appendix as probably in Concord. Specimen in Thoreau herbarium without date or locality labeled by him as "Galeopsis tetrahit" has been determined by Walter Kittredge to be Galeopsis bifida. There are about two references to this in Thoreau's *Journal*. On August 16, 1852 he refers to it in flower in roadside by Keyes's. Voucher specimen at the University of New Hampshire collected by Horace Mann Jr. without date or particular locale within Concord. Link to image.

GLECHOMA HEDERACEA (GM8: same; TH: same, Nepeta glechoma) GILL-OVER-THE-GROUND

Pratt simply notes habitat. Hosmer and Eaton say it is common. Specimens in Thoreau herbarium without date or locality. There are about 10 references to this in Thoreau's *Journal*. Voucher specimen in NEBC collected by Eaton on May 10, 1959 in moist loam in a hedge row near Sudbury River at Elm Street bridge. Link to image.

Hedeoma pulegioides(GM8: same; TH: same)

AMERICAN FALSE PENNYROYAL

Pratt simply notes habitat. Hosmer says it is common. Eaton calls it infrequent, but abundant on the Marlboro Formation at Conantum. Specimen in Thoreau herbarium without date or locality. There are about 32 references to this in Thoreau's *Journal*. Voucher specimen in NEBC (and in BEDF) collected by Eaton on August 6, 1958 on a moist. wooded bank under a dioritic ledge about ¼ mile south of Martha's Point near the meadow and on the same date in dry, rocky woods at Martha's Point where abundant along dioritic outcroppings. Link to image.

LAMIUM AMPLEXICAULE (GM8: same; TH: same)
HENBIT

Pratt simply notes habitat. Hosmer does not list this. Eaton says it is casual. Specimen in Thoreau herbarium is not from Concord. There are two references to this in Thoreau's *Journal*, neither of which refer to any wild occurrence in Concord. Voucher specimen in NEBC collected by Laurence E. Richardson on September 18, 1966 at edge of cultivated field. <u>Link</u> to image.

LAMIUM HYBRIDUM (GM8: same; TH: not included in the manuals used by Thoreau) Pratt, Hosmer and Eaton do not list this. No specimen in Thoreau herbarium. Voucher specimen in VT collected by Laurence E. Richardson on May 23, 1973 in a waste pile. Link to image.

## LAMIUM PURPUREUM var. PURPUREUM (GM8: same; TH: same) PURPI F DEAD-NETTI F

Pratt and Hosmer do not list this. Eaton says it is rare. No specimen in Thoreau herbarium or reference to this in his *Journal*. Voucher specimen in NEBC collected by Laurence E. Richardson and Eaton on May 26, 1974 at a station discovered by Rosita Corey, abundant in a fallow field bordering the Assabet River. Link to image.

# LEONURUS CARDIACA subsp. CARDIACA (GM8: same; TH: same) COMMON MOTHERWORT

Pratt simply notes habitat. Hosmer says it is common. Eaton calls it casual. Specimen in Thoreau herbarium without date or locality. There are about three references to this in Thoreau's *Journal*. In unpublished notes Eaton mentions that this was abundant near the Monument Street railroad crossing above the railroad. On June 13, 1981 this author found it in flower along the Punkatasset Hill access to the Estabrook Woods. Voucher specimen in BEDF collected by Eaton on October 8, 1957 at the edge of a cultivated field at G. [eorge F.] Root's farm [Intervale Farm on Sandy Pond Road]. A voucher of wild occurrence is needed. Image not available.

Lycopus americanus (GM8: same; TH: Lycopus europaeus var. sinuatus, Lycopus sinuatus) Pratt and Hosmer say this is common. Eaton calls it frequent. Specimens in Thoreau herbarium without date or locality. There are about six references to this in Thoreau's *Journal*. Eaton collected this on August 7, 1957 in a wet meadow along Spencer Brook (BEDF specimen). Laurence E. Richardson collected this on July 9, 1969 at Great Meadows (VT specimen). Voucher specimen in NEBC collected by Eaton on September 10, 1932 on gravelly beach of Bateman's Pond. Link to image.

Lycopus uniflorus var. uniflorus (GM8: same; TH: not distinguished in the manuals used by Thoreau, would have been included in Lycopus virginicus)

## NORTHERN BUGLEWEED

Pratt and Hosmer would have included this under Lycopus virginicus. Eaton says this is frequent. Two specimens in Thoreau herbarium without date or locality identified as this by Walter Kittredge . There about six references in Thoreau's *Journal* to this or Lycopus virginicus. Eaton collected this on August 28, 1921 (as Lycopus virginicus) at Meriam's Corner Bog [Gowing's Swamp] at the maple swamp edge of the sphagnum bog, and on September 9, 1957 in marshy ground near the shore of Bateman's Pond (both BEDF specimens). Voucher specimen in NEBC collected by Eaton on August 5, 1961 on moist gravel on the middle dyke at Great Meadows. Link to image.

Lycopus virginicus (GM8: same; TH: same, but including Lycopus uniflorus)
Pratt and Hosmer say this is common, but including Lycopus uniflorus. Eaton calls this common. Specimen in Thoreau herbarium identified as this by Thoreau has been identified by Walter Kittredge as Lycopus uniflorus. There about six references in Thoreau's *Journal* to this or Lycopus virginicus. Jarvis collected this on August 2, 1834 near Joseph Merriam's at the Great Whortleberry [blueberry] party (MASS specimen). Colleen M. Handel collected this on August 29, 1972 on the bank of Hutchin's Pond in the Estabrook Woods (BEDF specimen). Voucher specimen in NEBC collected by Edward Hoar on September 8, 1857 in Oak Meadow [now Mink Pond in te Estabrook Woods]. Link to image.

Mentha canadensis (GM8: Mentha arvensis - misapplied, including var. villosa; TH: same, Mentha borealis)

#### AMERICAN CORN MINT

Pratt says this is abundant on the river meadows. Hosmer and Eaton call it common. Specimen in Thoreau herbarium without date or locality. There are about 18 references to

this in Thoreau's Journal. Edward Hoar collected this on September 4, 1857 on the riverbank at the foot of R's garden [almost certainly the Sudbury River at the foot of Rockwood's garden, his brother Ebeneezer Rockwood Hoar] (NEBC specimen). Emile F. Williams collected this on August 9, 1898 at Conantum (GH specimen). Eaton collected this on August 15, 1930 on moist, grassy mudflats near Goose Pond on his woodlot (BEDF specimen), and on August 5, 1961 in moist gravel at the middle dyke at Great Meadows National Wildlife Refuge (NEBC and BEDF specimens). Voucher specimen in NEBC collected by Eaton on August 7, 1957 in a wet meadow at Spencer Brook below old Derby farm. Link to image. MENTHA SPICATA var. SPICATA (GM8: same + Mentha longifolia & varieties; TH: Mentha viridis)

#### **SPEARMINT**

Pratt says this is rather rare and notes it on the south slope of Punkatasset Hill. Hosmer simply refers to it at Bateman's Pond. Eaton says it is uncommon but only cites a garden collection as a voucher. Specimen in Thoreau's herbarium collected at Leppelman's [Emelius J. Leppelman, who lived in Concord on the road to Lexington and Boston right at the Lincoln town line]. Thoreau's published and unpublished *Journal* entry for August 16, 1856 refers to this as naturalized in the vicinity of an old garden by the tanyard which was on Leppelman's property in Concord. Voucher in GH is Thoreau's collection of this. Link to image.

## MONARDA DIDYMA (GM8: same; TH: same)

#### **OSWEGO-TEA**

Pratt only notes habitat. Hosmer simply refers to it at J.A. Smith's. Eaton says it is uncommon. No specimen in Thoreau herbarium. Only one reference to this in Thoreau's *Journal*, and that merely ruling it out in an identification. On August 29, 1982 this author found a few plants of this on the north side of Lexington Road near the Lincoln line. Voucher specimen in NEBC collected by Edward Hoar at Minot Pratt's dry roadside [Monument Street] in August 1879. Link to image.

# MONARDA FISTULOSA var. FISTULOSA (GM8: same; TH: same (in part)) WILD BERGAMOT

Pratt says he introduced this (or its var. mollis) from Illinois and put it about Punkatasset Hill. Hosmer simply notes this near Joseph Derby's, Pleasant Meadow [Lincoln, MA] and back of Samuel Hartwell's. Eaton says this is uncommon. Specimen in Thoreau herbarium collected on July 18, 1854 on Joe Smith road [now Strawberry Hill Road]. There are about six references to this or its var. mollis in Thoreau's *Journal*. On July 18, 1854 he notes finding this to his great surprise growing abundantly in the road [Joe Smith road] at the old Wheeler house. Voucher specimen in GH is the one in Thoreau's herbarium. Link to image. MONARDA FISTULOSA var. MOLLIS (GM8: same; TH: same (in part))

Pratt says he introduced this (or var. fistulosa) from Illinois and put it about Punkatasset Hill. Hosmer simply notes this near the road to Bateman's Pond. Eaton says this is occasional. Specimen in Thoreau herbarium collected on August 16, 1856 without locality specified. There are about six references to this or its var. mollis in Thoreau's *Journal*. On August 16, 1856 Thoreau mentions finding this nearly done flowering at roadside [presently Route 2A] opposite William Leighton's (Senior, 1808-1891), the plant being on the Lincoln side of the road. On July 29, 1979 this author found it in flower at Clamshell Bluff. Voucher specimen in NEBC (and in BEDF) collected by Eaton on July 18, 1934 in a sandy field at Clamshell Bluff, where still abundant in 1957. Link to image.

MONARDA MEDIA (GM8: same; TH: not treated in manuals used by Thoreau, probably would have been included under Monarda fistulosa)

#### PURPLE BERGAMOT

Pratt and Hosmer do not list this. Eaton says it is occasional. No specimen in Thoreau herbarium or reference to this in his *Journal*. Mary C. Rodman collected this at Strawberry Hill Road on July 21, 1901 (BEDF specimen). Laurence E. Richardson collected this on July 27, 1961 also at Strawberry Hill Road (BEDF). Voucher specimen in BEDF collected by this author on August 28, 1982 on the north side of Lexington Road near the Lincoln line. Image not available.

NEPETA CATARIA (GM8: same; TH: same)

#### **CATNIP**

Pratt says this is common about old buildings. Hosmer calls it common. Eaton says it is uncommon. Specimen in Thoreau herbarium without date or locality. There are about 24 references to this in Thoreau's *Journal*. On July 21, 1982 this author found it in flower along the railroad bed north of the filter beds. Voucher specimen in NEBC collected by Edward Hoar on August 12, 1858 along a roadside. Link to image.

PHYSOSTEGIA VIRGINIANA subsp. VIRGINIANA (GM8: same; TH: same) OBEDIENT-PLANT

Pratt and Hosmer do not list this. Eaton lists this only in an appendix as unlikely in Concord. No specimen in Thoreau herbarium or reference to this in his *Journal*. Laurence E. Richardson collected this on August 24, 1960 in woods along Fairhaven Road (BEDF specimen).

Voucher specimen in NEBC collected by this author on August 28, 1982 on the north side of Lexington Road near the Lincoln line, well-established in roadside waste area. <u>Link to image.</u>

PRUNELLA VULGARIS subsp. VULGARIS (GM8: same; TH: same (in part), Brunella vulgaris (in part))

**HEAL-ALL** 

Pratt and Hosmer say this is common, but include the more common subsp. lanceolata. Eaton calls this uncommon. No specimen in Thoreau herbarium. There are about 17 references in Thoreau's *Journal* to this or the more common subsp. lanceolata. Voucher specimen in NEBC collected by Eaton on July 25, 1957 along a low, shady, wood road near Bateman's Pond. <u>Link to image.</u>

Prunella vulgaris subsp. lanceolata (GM8: Prunella vulgaris var. lanceolata; TH: Prunella vulgaris (in part), Brunella vulgaris (in part))

Pratt and Hosmer say this is common, including the uncommon subsp. vulgaris. Eaton calls this common. Specimens in Thoreau herbarium without date or locality. There are about 17 references in Thoreau's *Journal* to this or the less common subsp. vulgaris. Voucher specimen in NEBC collected by Edward Hoar in July 1857. <u>Link to image</u>.

Pycnanthemum incanum var. incanum (GM8: same; TH: same)

Pratt simply notes this in woods east of the Nine-Acre Corner Schoolhouse and near Bateman's Pond. Hosmer says this is rather common [in the Concord vicinity]. Eaton calls it infrequent. Specimens in Thoreau herbarium without date or locality. There are about seven references to this in Thoreau's *Journal*. On May 8, 1853 he finds it at Annursnack Hill. On July 21, 1853 he refers to it in flower at Annursnack Hill and under Fairhaven Cliffs. On August 10, 1856 he is more specific about the Fairhaven Cliffs site noting that it grows at the west end of the Knoll in that vicinity with Rhus copallina. These are the only two sites in Concord Thoreau records finding this. Voucher specimen in NEBC collected by Edward Hoar in October [no year] in dry gravel about the base of "Nusneck" [Annursnack Hill]. Link to image.

Pycnanthemum muticum (GM8: same: TH: same)

Pratt does not list this. Hosmer and Eaton say it is common. Specimen in Thoreau herbarium without date or locality. There are about seven references to this in Thoreau's *Journal*. On July 24, 1853 he refers to it behind Wheeler's cottages. On July 29, 1853 he notes the Poorhouse Meadow as the best place he knows to find this. On July 3, 1854 he mentions it at Hypericum corymbosum Ditch near the Sudbury River. On July 15, 1854 he notes it again (apparently at the same site) standing by Hubbard's wall on the way to Hubbard's Bathing Place on the Sudbury River. Jarvis collected this on August 4, 1836 in a swamp west of S. Dennis (MASS specimen). Edward Hoar collected this in October (no year) in dry gravel at the base of Annursnack Hill with Pycnanthemum incanum (NEBC specimen). Eaton collected this on July 23, 1922 in shaded, moist ground along a roadside in Estabrook Woods (BEDF specimen). Voucher specimen in NEBC collected by Edward Hoar on August 30, 1858 on low, sandy land adjoining Mr. Prichard's. Link to image.

PYCNANTHEMUM PILOSUM (GM8: same; TH: same)

Pratt and Hosmer do not list this. Eaton says this is rare. No specimen in Thoreau herbarium or reference to this in his *Journal*. Voucher specimen in NEBC (and in BEDF) collected by Eaton on August 6, 1934 at Clamshell Bluff where well-established. <u>Link to image</u>.

Pycnanthemum tenuifolium (GM8: same; TH: not treated in the manuals used by Thoreau, would have been included in Pycnanthemum lanceolatum)

Pratt simply notes the habitat for "Pycnanthemum lanceolatum" which would include this and Pycnanthemum virginianum. Hosmer only notes the road to Bateman's Pond for "Pycnanthemum lanceolatum." Eaton says this is infrequent. Specimen in Thoreau herbarium without date or locality that is labeled "Pycnanthemum lanceolatum" has been identified as Pycnanthemum virginianum by Walter Kittredge. There are about four references to "Pycnanthemum lanceolatum" in Thoreau's *Journal*. Eaton collected this on October 9, 1922 on a dry hillside on the south side of Annursnack Hill, and on August 7, 1957 in an old field near the Middlesex School gate (BEDF specimens). On July 29, 1979 this author found it in blossom at Clamshell Bluff. This author also found this in flower on July 31, 1981 on the way to the Assabet River via the Davis land. Voucher specimen in NEBC collected by Edward Hoar in October [no year] at "Nusneck [Annursnack Hill] along wall running toward Prison [present Concord Reformatory]. Link to image.

Pycnanthemum virginianum (GM8: same; TH: Pycnanthemum lanceolatum (in part))
Pratt simply notes the habitat for "Pycnanthemum lanceolatum" which would include this and Pycnanthemum tenuifolium. Hosmer only notes the road to Bateman's Pond for "Pycnanthemum lanceolatum." Eaton says this is frequent (but called it "not common" in his unpublished notes). Specimens in Thoreau herbarium without date or locality that are labeled "Pycnanthemum lanceolatum" have been identified as Pycnanthemum virginianum by Walter Kittredge. There are about four references to "Pycnanthemum lanceolatum" in Thoreau's *Journal*. Eaton collected this on September 10, 1956 in low ground on a sterile old pasture on the farm formerly owned by Caleb Wheeler off Virginia Road (BEDF specimen). Voucher specimen in NEBC (and in GH) collected by Emile F. Williams on September 27, 1896 in a wet meadow. Link to image.

Scutellaria galericulata (GM8: Scutellaria epilobiifolia; TH: same)
MARSH SKULLCAP

Pratt says this is rather rare, noting it near the climbing fern and also along the Old Saw Mill brook. Hosmer and Eaton call it common. Specimens in Thoreau herbarium without date or locality. There are about six references to this in Thoreau's *Journal*. Jarvis collected this on July 30, 1834 in low woods west of C. Hosmer (MASS specimen). Eaton collected this

on July 16, 1957 in moist, sandy ground at the edge of a dyke at Great Meadows National Wildlife Refuge (BEDF specimen). Voucher specimen in NEBC collected by Eaton on August 2, 1930 in a wet, grassy pond-hole on his woodlot near Goose Pond. Link to image.

Scutellaria lateriflora var. lateriflora (GM8: same; TH: same)

#### MAD-DOG SKULLCAP

Pratt says this is more common than Scutellaria galericulata. Hosmer and Eaton call it common. Specimens in Thoreau herbarium without date or locality. There are about nine references to this in Thoreau's *Journal*. Jarvis collected this on July 28, 1834 near Jos. Miles (MASS specimen). Eaton collected this on July 16, 1957 on a wet, sandy dyke at the Great Meadows National Wildlife Refuge (BEDF specimen). Voucher specimen in NEBC collected by Edward Hoar on in August 1879 in a meadow at foot of Conantum Cliff. Link to image.

Stachys hispida (GM8: Stachys tenuifolia, including var. hispida & var. platyphylla; TH: Stachys hyssopifolia + Stachys palustris var. aspera, Stachys aspera)

Pratt says this is rare and notes it south of Punkatasset Hill. Hosmer calls this (as Stachys aspera) common [in the Concord vicinity]. Eaton inadvertently omits this from his *Flora* but includes it in his unpublished notes where he calls it infrequent. Specimens in Thoreau herbarium without date or locality. There are about eight references to this in Thoreau's *Journal*. On July 5, 1854 he notes it at Clamshell Ditch. Jarvis notes this as Stachys aspera on July 14, 1834 at roadside near Capt. Hunt. Edward Hoar collected this on August 8, 1857 between his garden and the river [Sudbury River] (NEBC specimen). Eaton collected this on July 20, 1957 at the wet edge of Jenny Dugan Brook west of the Concord Country Club (BEDF specimen). This author collected it on July 16, 1981 about 8 plants in damp thicket just north of Red Coat Lane (MASS and BEDF specimens). Voucher specimen in NEBC collected by Eaton on June 29, 1921 on roadside shoulder of Nashawtuc Bridge causeway. Link to image.

STACHYS PALUSTRIS (GM8: same, including var. elliptica; TH: same) WOUNDWORT

Pratt and Hosmer do not list this. Eaton calls it apparently rare. No specimen in Thoreau herbarium or references to this in his *Journal*. Voucher specimen in NEBC collected by Eaton on August 25, 1969 at edge of a fallow field near the mouth of Spencer Brook where abundant. Link to image.

Teucrium canadense var. canadense (GM8: same, including var. virginicum; TH: same)

AMERICAN GERMANDER

Pratt and Hosmer do not list this. Eaton says it is uncommon. No specimen in Thoreau herbarium. There is one reference to this in Thoreau's *Journal* but not to occurrence in Concord. Laurence E. Richardson collected this on July 27, 1971 in a meadow along Assabet River (MASS and VT specimens), and on August 13, 1971 abundant on a shady edge of a roadside in a hardwoods thicket on Fairhaven Road (VT and BEDF specimens). On July 28, 1979 this author found it in flower in the Estabrook Woods. On July 28, 1980 Mary M. Walker collected this behind Star Market (BEDF specimen). Cherrie Corey found this in 2014 in the upper Spencer Brook valley. She reported (2014) also that it grows abundantly in most of the field hedgerows surrounding the Ripley building and Meriam-Burke field in East Concord. Voucher specimen in NEBC collected by Eaton on August 23, 1957 along ditch in low hayfield in rear of Russell Robb's house [former Pratt residence] southwest of Punkatasset Hill. Link to image.

THYMUS PULEGIOIDES (GM8: Thymus serpyllum; TH: Thymus serpyllum) LEMON THYME

Pratt does not list this. Hosmer simply notes it at the Cemetery [Sleepy Hollow]. Eaton says this is rare. No specimen in Thoreau herbarium and only one reference to it in his *Journal* which is not to occurrence in Concord. Voucher specimen in NEBC collected by Eaton on August 14. 1957 on the floor of an old gravel pit at the Concord Country Club where abundant and observed since 1914. Link to image.

Trichostema dichotomum (GM8: same; TH: same) BLUECURLS

Pratt simply notes habitat. Hosmer and Eaton say it is common. Specimens in Thoreau herbarium without date or locality. There are about 34 references to this in Thoreau's *Journal*. In 2021 Cherrie Corey reported that this had not been seen the town. Voucher specimen in NEBC collected by Edward Hoar on August 24, 1857 on the eastern shore of Walden Pond. <u>Link to image</u>.

Lauraceae (GM8: same; TH: same)

Lindera benzoin (GM8: same; TH: Benzoin odoriferum)

SPICEBUSH

Pratt simply notes that this is chiefly confined to the Estabrook region. Hosmer only refers to it on Lime Kiln Road [Estabrook Road in Estabrook Woods] and Estabrook Road. Eaton says it is frequent. Specimens in Thoreau herbarium without date or locality. There are about 42 references to this in Thoreau's Journal. Edward Hoar collected this on September 8, 1857 near Oak Meadow [now Mink Pond in the Estabrook Woods] (NEBC specimen). Eaton collected this on August 23, 1957 along Estabrook Road (BEDF specimen). Robert A. Bye collected this on May 7, 1972 in low, damp woods along Waterthrush Brook [Estabrook Woods east of Mink Pond] (BEDF specimen). This author found it in other parts of the town in addition to the Estabrook Woods area, especially the general vicinity of Martha's Point. Voucher specimen in NEBC collected by Edward Hoar on September 19 [no year] in a wet bog on the northeastern shore of Fairhaven Bay toward the cliffs. Link to image.

Sassafras albidum (GM8: same, including var. molle; TH: Sassafras officinale)
SASSAFRAS

Pratt simply notes habitat and that it is especially in the northerly part of town. Hosmer says it is common. Eaton calls the typical variety uncommon and a variety of it more common than the typical variety; in unpublished notes he refers to it as common. Specimens in Thoreau herbarium without date or locale. There are about 47 references to this in Thoreau's *Journal.* Jarvis notes this in back of Abiel B. Heywood's. Eaton collected this on September 5, 1957 in rocky woods at the foot of the Fairhaven Cliffs (NEBC specimen). Laurence E. Richardson collected this on May 22, 1960 at Annursnack Hill on the south side (BEDF specimen). Cherrie Corey (2014) reported seeing this in recent years in the woods below Fairhaven Cliffs, on the southeastern shoulder above Gowing's Swamp, large trees off the northeastern corner of a parking lot in back of the Ripley Building on the path into the old Ammendolia fields, in Conantum above the native Sugar Maple Grove, saplings along Hugh Carghill Road, various places throughout Estabrook Woods, in the Walden Woods and in an area behind the Emerson house. Cole Winstanley (2014) confirmed seeing this at four locations in Estabrook Woods as well as many trees associated with ravines between Fairhaven Hill and the Sudbury River in recent years. Voucher specimen in NEBC collected by Eaton on August 8, 1957 in dry, oak woods in the vicinity of Martha's Point. Link to image.

## **Lentibulariaceae** (GM8: same; TH: same)

Utricularia cornuta (GM8: same: TH: same)

Pratt simply notes this on the shores of Bateman's Pond. Hosmer simply cites it at Bateman's Pond and on banks of river. Eaton says it is only known from Bateman's Pond. Specimens in Thoreau herbarium without date or locality. There are about eight references to this in Thoreau's *Journal*. On July 21, 1853 he refers to it yellowing the shore of Fair Haven Pond [Fairhaven Bay]. On July 11, 1854 he mentions it in flower also at Fairhaven Bay. All other *Journal* references are to occurrence at Flint's and Clematis Ponds in Lincoln. Voucher specimen in NEBC collected by Edward Hoar with Walter Deane on July 5, 1887 at Bateman's Pond in shallow water. Link to image.

Utricularia geminiscapa (GM8: same; TH: Utricularia clandestina)

Pratt and Hosmer do not list this. Eaton says this is uncommon. No specimen in Thoreau herbarium or references to this in his *Journal*. Voucher specimen in NEBC (and BEDF) collected by Eaton in August 1933 in pond-hole at Ledum Bog [Ledum Swamp] on Harry Keefe's farm. Link to image.

Utricularia gibba (GM8: same; TH: same)

Pratt does not list this. Hosmer simply notes it at Fairhaven Bay. Eaton says it is common, abundant at Great Meadows impoundments. No specimen in Thoreau herbarium or reference to this in his *Journal*. Eaton collected this on September 24, 1957 in shallow, still water in large, floating mats in the artificial impoundment near R. Borden's at Great Meadows National Wildlife Refuge (NEBC specimen). Laurence E. Richardson collected this on September 1, 1969 in mud to 6 inches of water along 100 feet of the shore of a brook at Barnes Hill Road (BEDF specimen). Voucher specimen in NEBC collected by Edward Hoar on September 4, 1886 at the south shore of Bateman's Pond. Link to image.

Utricularia intermedia (GM8: same; TH: same)

Pratt and Hosmer do not list this. Eaton says it is rare, but with a parenthetical question mark. No specimen in Thoreau herbarium from Concord. There is one *Journal* reference to this, but not to occurrence in Concord. Voucher specimen in NEBC collected by Edward Hoar in August 1879 in temporary shallow water among tussocks in meadow between Black Ash and Conantum Cliffs "locality in general only softish pools or small bog-holes near dry land." Link to image.

Utricularia minor (GM8: same; TH: same)

Pratt and Hosmer do not list this. Eaton says this is rare. Specimen in Thoreau herbarium collected at Owl Nest Swamp on August 29, 1857. No reference to this specifically in Thoreau's *Journal*; reference in journal entry of August 29, 1857 is to "a small Utricularia." Voucher specimen in GH is Thoreau's collection of it. Link to image.

Utricularia purpurea (GM8: same; TH: same)

Pratt simply notes its habitat. Hosmer only refers to it on "River" [Sudbury/Concord River]. Eaton says it is frequent. Specimens in Thoreau herbarium without date or locality. There are about 10 references to this in Thoreau's *Journal*. On July 13, 1853 he first mentions it in flower near the Hollowell Place along the Sudbury River. On August 5, 1854 he refers to it as exceedingly abundant on both sides of the Sudbury River, "apparently from one end to the other." On August 3, 1856 he again notes it as abundant on the Sudbury River. On September 1, 1857 he refers to is as abundant on the west side of Fair Haven Pond [Bay]. On August 5, 1858 he says it is the most common of its tribe [genus], ringing the pools in many places [along the Sudbury River]. On that same day he proclaims it to be *the* flower of

the river [Sudbury River] that day, apparently at peak of flowering. He describes it as very abundant, far more than any other Utricularia, especially from Fair Haven Pond [Bay] upward [along the Sudbury River]. A little cove on the southeast side of Fairhaven Bay he names Purple Utricularia Bay owing to its prevalence there, counting a dozen plants within a square foot rising one or two inches above the water. On July 31, 1859 he notes that the Utricularias are characteristically found in the stagnant, lake-like reaches of the river where lily pads, heart-leaf, pickerel-weed, button-bush and black willows abound. Thus, all indications are that this was only found along the Sudbury River. Although Eaton characterizes this as "frequent," his unpublished notes do not reflect this. He states "Probably common in the river [Sudbury] but seldom flowers." It is telling that in Eaton's description of the effects of water pollution in the Sudbury River in the 1930s he lists Nymphaea odorata and Nymphoides cordata as among those species suffering major decline, species Thoreau associated with this Utricularia. Since there does not appear to be any evidence for it in Concord after the 1930s, its present status is unknown. Voucher specimen in NEBC collected by Edward Hoar and Mr. Holland [most likely Frederick West Holland (1811-1893)] on July 27 [no year] on "River [Sudbury] up towards Fairhaven [Bay]." Link to image.

Utricularia radiata (GM8: Utricularia inflata var. minor; TH: Utricularia inflata (in part)) Pratt, Hosmer and Eaton say this is common. Four specimens in Thoreau's herbarium without dates or localities. There are about nine references to this in Thoreau's Journal. Jarvis notes this near Dr. Ripley's bridge [Flint's Bridge] and in Concord river [Sudbury River] near N. Hallowell [Hollowell], and collected this an August 9, 1834 with C.C. Field in the Concord river [Sudbury River] near the Corner Bridge [near the Hollowell residence] (MASS specimen). In unpublished notes Eaton says this is in Bateman's Pond. Eaton collected this on July 16, 1920 in a stagnant backwater 6 feet deep in the Sudbury River below Heath's Bridge (BEDF specimen). Laurence E. Richardson collected this on September 2, 1967 on the north side of Warner's Pond (BEDF specimen). Voucher specimen in NEBC collected by Edward Hoar on August [no year] in river by Egg Rock and elsewhere. Link to image.

Utricularia resupinata (GM8: same; TH: same)

Pratt and Eaton do not list this. Hosmer says it is rare, noting it from White Pond (in Concord), Sandy Pond (in Lincoln, MA) and Grassy Pond (in Acton, MA) with 5 flowering dates (1894, 1895, 1899, 1900, 1901). No specimen in Thoreau's herbarium. There is one reference to this in Thoreau's *Journal*. On July 18, 1857 he notes George Bradford finding this once in Plymouth and commenting that it seems to correspond to one he found in Well Meadow. Hosmer collected this in White Pond on August 5, 1894 or from Sandy Pond [Flint's Pond] in Lincoln, MA on July 7, 1895 (NEBC specimen). Voucher specimen in MASS collected by Matthew G. Hickler on September 9, 2002 in thin organic material over sand on the southeastern shoreline of White Pond. Link to image.

Utricularia vulgaris subsp. macrorhiza (GM8: Utricularia vulgaris; TH: Utricularia vulgaris) Pratt simply notes its habitat. Hosmer says it is common. Eaton also says it is common, often too abundant. Specimen in Thoreau herbarium without date or locality. There are about 22 references to this in Thoreau's *Journal*. Jarvis notes it in ditch at side of [Cambridge] turnpike. Eaton collected this on July 16, 1920 in a stagnant backwater 6 feet deep in the Sudbury River below Heath's Bridge (BEDF specimen). On June 14, 1979 this author found it at the Andromeda Ponds. Voucher specimen in NEBC collected by Edward Hoar on August [no year] in the Concord River at Egg Rock and elsewhere. Link to image.

**Linderniaceae** (GM8: Scrophulariaceae (in part); TH: Scrophulariaceae (in part))
Lindernia dubia (GM8: same + Lindernia anagallidea; TH: Ilysanthes gratioloides, Lindernia pyxidaria)

Pratt says this is common. Hosmer simply notes this (as Ilysanthes riparia) at bog hole near H.C. Wheeler's, borders of river at Dakin's Hill, and at White Pond. Eaton says it is common. Specimens in Thoreau herbarium without date or locality. There are about five references to this in Thoreau's *Journal*. Jarvis collected this as Lindernia pyxidaria on August 13, 1834 in Merrick's Pasture [which included today's Old Calf Pasture] on banks of the river where abundant (MASS specimen). Eaton collected this on August 1, 1957 in a rock crevice at the river edge at Martha's Point, and on September 20, 1961 at the muddy shore of Bateman's Pond at the northeast end (BEDF specimens). Laurence E. Richardson collected this on July 30, 1961 at the Assabet River (BEDF specimen). Voucher specimen in NEBC collected Eaton on August 2, 1930 in a grassy mudflat on his woodlot near Goose Pond. Link to image.

**Lythraceae** (GM8: Lythraceae + Hydrocaryaceae; TH: Lythraceae + Onagraceae (in part))
Decodon verticillatus (GM8: same, including var. laevigatus; TH: same, Lythrum verticillatum,
Nesaea verticillata)

**SWAMP LOOSETRIFE** 

Pratt simply notes this at borders of a bog hole near Marshal Miles's, Ledum swamp, and swamps in Nine-Acre Corner. Hosmer only mentions this at Heath Swamp [Ledum Swamp]. Eaton says it is frequent. Specimens in Thoreau herbarium without date or locality. There are about 14 references to this in Thoreau's Journal. On December 19, 1854 Thoreau records his surprise at finding an abundance of this in the Andromeda Ponds, especially the westernmost one on the north side, after having seen it only in Lincoln, MA and Plymouth, MA up to that point. Oddly, there is no reference to him seeing this at Ledum Swamp. This author saw it at the Andromeda Ponds in the late 1970s or early 1980s. On August 3, 1978 this author found it lining the margin of the small pool that is the remnant of the Ledum Swamp bog. In October of 2015 Cherrie Corey confirmed the continued presence at the Andromeda Ponds, about 1/8 acre of it near the trail that crosses the saddle between the upper and lower ponds and has also found it at Moore's Swamp and in the swamp at the source of Jenny Dugan Brook. Voucher specimen in NEBC collected by Eaton on September 6, 1957 at the edge of the boggy pond-hole that was the "Ledum Bog" near the Old Road to Nine Acre Corner. Link to image.

LYTHRUM SALICARIA (GM8: same; TH: same)
PURPLE LOOSESTRIFE

Pratt does not list this. It is included without comment in an addendum of three loose pages associated with his manuscript after his death. Hosmer simply notes it near Derby's Bridge, Barrett's Meadow, Concord Junction and near Millbrook. His first flowering date record for this is August 5, 1889. Eaton says this is common, often dangerously abundant, commenting that it spread rapidly since about 1958 when first noticed in Concord [by him]. No specimen in Thoreau herbarium or reference to it in his *Journal*. The third edition of Jacob Bigelow's Florula Bostoniensis (1840) does not list it. But the first edition of Asa Gray's Manual of the Botany of the Northern United States (1848) includes it stating that it had been found in Maine, eastern Massachusetts and Orange County, NY and that it was commonly cultivated. The Flora of Middlesex County, Massachusetts (1888) of L.L. Dame and F.S. Collins only lists it from three townships, but not Concord. It seems most likely that this first

appeared in Concord near the time of Pratt's death in 1878 and grew sparingly at only few locations until the 1960s when its numbers exploded. Voucher specimen in NEBC collected by Eaton on July 12, 1958 in swampy ground at the edge of a thicket at the Cattle Show grounds Brook where very scarce, but generally distributed in the river meadows. Link to image.

Rotala ramosior (GM8: same; TH: Ammannia humilis) TOOTH-CUP

Pratt, Hosmer and Eaton do not list this. Specimens in Thoreau herbarium without date or locality. There are about six references to this in Thoreau's *Journal*. On August 11, 1854 Thoreau first finds this at the northeast end of Wheeler's brush fence meadow near the Assabet River. On August 30, 1854 he records finding it abundant along the denuded, flat [John] Hosmer shore that occurs along the northern side of the Sudbury River before reaching Clamshell Hill (upstream). On this date he notes that it also occurs in John Hosmer's meadow. All other *Journal* references are to the Sudbury River location. This species has been (2014) regarded as endangered in Massachusetts and endangered or threatened in the four New England states where it occurs. There are only six occurrences known in Massachusetts in the last 20-25 years. Voucher specimen in NEBC collected by John L. Russell [who was with Thoreau in Concord on the Sudbury River on July 23, 1856] on July 24, 1856 at the Concord [Sudbury] River. Link to image.

TRAPA NATANS (GM8: same; TH: not treated in the manuals used by Thoreau) WATER-CHESTNUT

Pratt does not list this. It is included without comment in an addendum of three loose pages associated with his manuscript after his death. Hosmer simply notes this occurring in "River" [Sudbury/Concord Rivers], his first flowering date for it being July 18, 1888. Eaton says this is abundant, a frequent but unaggressive weed in the Sudbury and Concord Rivers prior to 1930, becoming dominant, sometimes channel-choking, subsequent to a sharp rise in river pollutants in the mid-1930s. No specimen in Thoreau herbarium or reference to this in his *Iournal*. How and when this species was brought into Concord is uncertain. The earliest collection of this in Massachusetts appears to be from a pond at the Botanical Garden in Cambridge, MA on July 10, 1877 (New York Botanical Garden herbarium specimen). Two years later in 1879 it was collected in Fresh Pond in Cambridge, MA (NEBC and GH specimens). The Concord occurrence is most likely transplantation from one of these two early sites in Cambridge. An 1885 Concord quide book implies that Pratt introduced it, but neither Pratt's manuscript nor annotations in his copy of Gray's Manual of Botany indicate that he did so. Emile F. Williams collected this on August 16, 1908 in the Sudbury River (NEBC and GH specimens). In the late 1970s and early 1980s this author knew it primarily as a prevalent weed in the Great Meadows impoundments, not so much in the rivers. William D. Countryman and Laurence E. Richardson collected this on August 24, 1968 at the South Bridge in the Sudbury River where there were a few scattered plants (VT and University of New Hampshire specimens). Voucher specimen in NEBC collected by Edward Hoar on August 29, 1879 at the Holt [a loop in the Concord River at the Great Meadows] in the Concord River floating in 4 feet of water. Link to image.

Magnoliaceae (GM8: same; TH: same)

MAGNOLIA TRIPETALA (GM8: same; TH: Magnolia umbrella)

**UMBRELLA-TREE** 

Pratt and Hosmer do not list this. Eaton simply notes that it is spreading freely from three mature trees at one site. No specimen in Thoreau herbarium or reference to it in his *Journal*. This author collected it on May 25, 1977, September 14, 1978 and on October 31, 1979 (BEDF specimens) at the site referred to by Eaton in the woods behind the former Pratt residence where it was very well established, before the extensive landscaping operations in the early 1980s of the owner of the Pratt residence at that time destroyed the mature trees and most of the saplings and seedlings. However, removal of the canopy and much of the undergrowth has apparently resulted in a greater growth of this species from remaining seedlings and sprout growth in that area due to the increased sunlight. There is no evidence that Pratt himself introduced this into Concord. But the operation of a nursery in that vicinity by one of his sons and a grandson and occurrence of other introduced trees and shrubs in the same vicinity strongly suggest that this established itself after Pratt's death due to the nursery operation. On June 12, 2016 Cole Winstanley and Cherrie Corey found a colony of young trees of this near the tennis courts on Conantum. Voucher specimen in NEBC collected by Eaton and Katharine H. Teele on June 6, 1974 off Monument Street in low, deciduous woods, three large trees and many flowering saplings. Link to image.

**Malvaceae** (GM8: Malvaceae + Tiliaceae; TH: Malvaceae + Tiliaceae) ABUTILON THEOPHRASTI (GM8: same; TH: Abutilon avicennae) VELVET-LEAF

Pratt's manuscript and his copy of Gray's *Manual of Botany* indicate that he introduced this from Michigan. Hosmer does not list this. Eaton lists it only in an appendix as unlikely to occur in Concord. No specimen in Thoreau herbarium or reference to this in his *Journal*. Cherrie Corey (2014) reported that this can be found in good supply throughout the town in numerous old or slightly cultivated fields. Voucher specimen in NEBC collected by Laurence E. Richardson on July 13, 1976 near old spring off Strawberry Hill Road, opposite gun club entrance. Link to image.

Hibiscus moscheutos subsp. moscheutos (GM8: Hibiscus palustris; TH: same) SWAMP ROSE-MALLOW

Pratt says this is rare. Hosmer simply notes it on riverbanks below Flint's Bridge [Concord River]. Eaton also calls it rare, reporting only two plants seen in 1969. Specimen in Thoreau herbarium without date or locality. There are about 17 references to this in Thoreau's *Journal*. He first notes in on August 16, 1852 while boating down the Concord River with George Bradford, finding it in front of N[athan] Barrett's, calling it the most conspicuous, showy and rich-colored flower of that month, and giving more description of it and its habitat. On August 6, 1854 he records seeing it just starting to flower nearer Flint's [Bridge] and also at Ball's Hill Bend, both places on the Concord River. On October 4, 1856 he notes it going to seed opposite Burr's Island or Rock below [Old North Bridge] Battleground along the Concord River. Jarvis notes this at the Concord River on the north bank a few rods east of Ripley's bridge [Flint's Bridge]. Laurence E. Richardson collected this on August 7, 1964 at the edge of the river [Concord River] opposite and 200 yards above Hunt's "Pond" (BEDF specimen). On August 13, 1979 this author found about six plants of it in flower west of the northern Great Meadows impoundment (approximately at or opposite where Thoreau first found it). Cherrie Corey verified its presence in Concord as of 2019 at

three locations – the location this author found it, the location where Eaton and Richardson found it, and where Thoreau saw it at Ball's Hill Bend. She reported it as infrequent in 2021. Voucher specimen in NEBC collected by Eaton on August 22, 1959 in a river meadow, a single large clump on river bend [Concord River] at the edge of Great Meadows opposite Brewster's Camp [from his notes]. Link to image.

MALVA MOSCHATA (GM8: same; TH: same)

MUSK MALLOW

Pratt and Hosmer do not list this. Eaton says it is infrequent. No specimen in Thoreau herbarium or reference to this in his *Journal*. Eaton collected this on July 25, 1957 in the barn yard of G.[eorge F.] Root's Farm [Intervale Farm on Sandy Pond Road] (NEBC specimen). Voucher specimen in BEDF collected by Laurence E. Richardson on September 19, 1966 at the edge of a corn field. Image not available.

MALVA NEGLECTA (GM8: same; TH: Malva rotundifolia)

COMMON MALLOW

Pratt says this is a common weed. Hosmer and Eaton also call it common. Specimen in Thoreau herbarium without date or locality. There are about four references to this in Thoreau's *Journal*. Voucher specimen in NEBC collected by Laurence E. Richardson on June 26, 1958 in a wagon track at the edge of a cultivated field at Barrett's Mill Road. <u>Link to image</u>.

Tilia americana (GM8: same; TH: same)
BASSWOOD

Pratt states: "Found chiefly in the south part of the town. A single tree on the southerly slope of Pongatasset [Punkatasset Hill] and another near the old Esterbrook place." Hosmer simply notes it at Egg Rock. Eaton says it is infrequent. Specimens in Thoreau herbarium without date or locality. There are about 70 references to this in Thoreau's *Journal*. Jarvis collected this on July 30, 1836 near N.[athaniel] Barrett's, which would be the same station of Pratt on the southern slope of Punkatasset Hill (MASS specimen). In unpublished notes Eaton mentions it along Garfield Road on Conantum. On September 15, 1979 this author found it along a brook west of Annursnack Hill. This author also found it in rich, damp woods in at least two vales at Conantum, one of them being Thoreau's Cohush Swamp where he also found it. On June 25, 2016 Cole Winstanley found much of this at Thoreau's Sugar Maple Grove, this no doubt is part of one extended population on Conantum. Voucher specimen in NEBC collected by Eaton on August 4, 1920 in rich alluvium on the left bank of the Assabet River near the boat landing of Dr. E.[dward] W. Emerson. Link to image.

TILIA CORDATA (GM8: not treated in this manual; TH: not treated in the manuals used by Thoreau)

Pratt, Hosmer and Eaton do not list this. No specimen in Thoreau herbarium or reference to this in his *Journal*. H.E. Ahles collected this on Oct. 15, 1977 along a roadside (MASS specimen). Voucher specimen in NEBC collected by Eaton on August 23, 1977 in low ground at the edge of woods at the foot of Punkatasset Hill on the west side near long abandoned nursery [of the Pratt family], well established [but possibly destroyed by later landscaping operations], identification corrected by this author from Tilia europaea. Link to image.

## **Melastomataceae** (GM8: same; TH: same)

Rhexia virginica (GM8: same; TH: same)

**COMMON MEADOW-BEAUTY** 

Pratt says this is abundant in fields in the south part of town, and shores of ponds, and along the borders of the river. Hosmer calls it common. Eaton says it is frequent. Specimens in Thoreau herbarium without date or locality. There are about 30 references to this in Thoreau's *Journal*. Eaton collected this on September 21, 1929 on a sandy shore of White Pond (BEDF specimen). On September 6, 1982 this author found it near a pond on Bemis land west of Lowell Road. Voucher specimen in NEBC collected by Eaton on July 28, 1920 in swamp opposite Ledum Swamp at Old Road to Nine Acre Corner. Link to image.

**Menyanthaceae** (GM8: Gentianaceae (in part); TH: Gentianaceae (in part)) Menyanthes trifoliata (GM8: same, including var. minor; TH: same)

BUCKBEAN

Pratt simply notes this near the Fitchburg Railroad opposite Walden Pond, at the foot of Annursnack Hill, and elsewhere not specified. Hosmer says it is common ∫in the Concord vicinity]. Eaton calls it rare, formerly in at least three stations and abundantly, now just from one where sparse. Specimens in Thoreau herbarium without date or locality. There are about 18 references to this in Thoreau's Journal. On June 9, 1852 he first mentions this in Concord finding it just going out of blossom in Hubbard's meadow. Four days later on June 13 he remarks on seeing it in Conant's meadow. On July 14, 1853 he notes an abundance of it in Beck Stow's Swamp. On June 6, 1858 he appears to refer to a station in the vicinity of Painted-Cup Meadow at Annursnack Hill. Eaton's statement that Thoreau found it at Gowing's Swamp based on Thoreau's Journal reference of August 30, 1856 is in error since Thoreau's long entry for that date is all about Beck Stow's Swamp. Jarvis notes it in May 1834 at "Back of new burial ground [Sleepy Hollow Cemetery]," likely referring to Moore's Swamp. In unpublished notes Eaton refers to it as formerly abundant in Arethusa bog [called Tuttle's Peat Meadow by Thoreau] near G.[eorge] Root's Ice Pond [Crosby Pond]. On May 31, 1979 this author found many plants, but only one in flower, on the south side edge of Heywood's Meadow not far from the outlet of the meadow at the railroad tracks, but in the Lincoln, MA part of that bog. However, this population is certainly related to one this author found on July 4, 1979 on the southwestern edge of a small bog on the other side of and close to the railroad tracks just north of the Lincoln line. This author never saw the Concord plants in flower. In June 2016 Cole Winstanley found a 1 X 2 meter patch of this at the western edge of the sphagnum bog at the west end of the Ministerial Swamp, but with none in flower. Voucher specimen in NEBC collected by Edward Hoar on June 5 [no year] at the foot of Nusneck [Annursnack Hill] in a wet meadow [likely Thoreau's Painted Cup Meadow]. Link to image.

Nymphoides cordata (GM8: same; TH: Limnanthemum lacunosum, Villarsia lacunosa) Pratt and Hosmer say this is common. Eaton calls it locally frequent, formerly abundant in now heavily polluted river. Specimens in Thoreau herbarium without date or locality. There are about 47 references to this in Thoreau's *Journal*. David Potter collected this on July 12, 1925 in the Concord River (GH specimen). Laurence E. Richardson collected this on July 25, 1968 in Bateman's Pond (BEDF specimen). Voucher specimen in NEBC collected by William Brewster on September 14, 1893 in Goose Pond. Link to image.

**Molluginaceae** (GM8: Aizoaceae (in part); TH: Caryophyllaceae (in part))

Mollugo verticillata (GM8: same; TH: same)

**CARPETWEED** 

Pratt says this is a common weed in cultivated grounds. Hosmer does not list this. Eaton calls it weedy, often abundant. Specimen in Thoreau herbarium without date or locality. There are about four references to this in Thoreau's *Journal*. Eaton collected this on July 25, 1957 in cultivated soil (BEDF specimen). Specimen in NEBC collected by Edward Hoar on July 20, 1858 in garden. A voucher from a wild habitat is needed. Link to image.

Moraceae (GM8: same; TH: Urticaceae (in part))

MORUS ALBA (GM8: same: TH: same)

WHITE MULBERRY

Pratt states: "Several trees in front of T.F. Hunt's; also some small trees opposite Richard Barrett's, in the field of Lewis Flint." Hosmer does not list this. Eaton says it is rare. No specimen in Thoreau herbarium from Concord. [A specimen in Thoreau's herbarium labeled as "Morus rubra?" has been confirmed as Morus rubra by Walter Kittredge, but was collected "From Hill {Lee's Hill or Nashawtuc}" and is associated with the *Journal* reference on June 1, 1857 where it is evidently "The morus at the Lee house ...," a planted specimen.] There are no specific references to this in Thoreau's *Journal*. Eaton and Laurence E. Richardson collected this on July 12, 1966 in a thicket on a bank along the edge of a meadow between Barrett's Mill Road and the Assabet River (NEBC and BEDF specimens). Voucher specimen in NEBC collected by Eaton on June 4, 1963 in roadside thicket on Garfield Road. Link to image.

Myricaceae (GM8: same; TH: same)

Comptonia peregrina (GM8: same; TH: Comptonia asplenifolia) SWEET-FERN

Pratt and Eaton say this is common. Hosmer calls this (as Myrica asplenifolia) very common. Specimens in Thoreau herbarium without date or locality. There are about 84 references to this in Thoreau's *Journal*. S. Boson collected this on May 25, 1929 at Walden Pond (GH specimen). Laurence E. Richardson collected this on June 25, 1960 along College Road (BEDF specimen). Voucher specimen in NEBC collected by Eaton on June 7, 1935 abundant in dry, sterile soil in the Town Forest. Link to image.

Morella pensylvanica (GM8: Myrica pensylvanica; TH: Myrica cerifera) NORTHERN BAYBERRY

Pratt says this rare, noting that he had met with 5 or 6 clumps of it in Concord, including one in a pasture at Conantum, one in the lane leading from Flint's Bridge to the rivermeadows below, and the rest north of the village. Hosmer simply mentions it at Conantum and near E. Hosmer's. Eaton also calls it rare with three known stations of which two destroyed. Specimens in Thoreau herbarium, staminate ones, from Concord without date can be associated with his *Journal* entries for May 23 and May 30, 1855. There are about 31 references to this in Thoreau's *Journal*. On August 30, 1854 Thoreau relates that Pratt tells him of this found in Holden's pasture and on the old Carlisle road. Eaton collected this on August 14, 1957 at the railroad cut west of White Pond (BEDF specimen). This author collected it in Concord on May 26 (flowers) and June 26 (foliage), 1980 in a waste area by a maintenance road for Hanscom Field to the east of Old Bedford Road (BEDF specimens). On

June 24, 1981 this author found it at the foot of Ball's Hill along a path by the Concord River. This author also found it along Garfield Road (Conantum). Cole Winstanley found numerous vigorous colonies of this in a sandy drumlin area west of the railroad track north of Powder Mill Road in Sept. 2015 (close to Eaton's 1957 collection). Voucher specimen in NEBC collected by Eaton on September 10, 1932 in a peaty meadow near Jenny Dugan Brook at the Concord Country Club. Link to image.

Myrica gale (GM8: same; TH: same)

**SWEET GALE** 

Pratt simply notes this at the Mill Brook on the old Turnpike [Cambridge Turnpike]. Hosmer says this is very common. Eaton calls it common. Specimens in Thoreau herbarium without date or locality. There are about 63 references to this in Thoreau's *Journal*. Jarvis notes it in meadows by Garrison's in April 1835. Laurence E. Richardson collected this on April 20, 1963 at Great Meadows (BEDF specimen). This author collected it on April 21 (flowers) and August 6 (fruit & foliage), 1979 along the Cambridge Turnpike (Pratt's location) (BEDF specimen). This author in 2007 and Cherrie Corey in 2014 found this still at the Mill Brook/Turnpike site referred to by Pratt. Cherrie Corey also reported (2013) that it grew extensively at Great Meadows. Voucher specimen in NEBC collected by Edward Hoar on April 11 and May 10, 1858. Link to image.

Nelumbonaceae (GM8: Nymphaeaceae (in part); TH: Nelumbiaceae)

NELUMBO LUTEA (GM8: same; TH: Nelumbium luteum)

**AMERICAN LOTUS** 

Pratt does not list this. Hosmer simply notes it in the Concord River and provides no flowering dates. Eaton says it is uncommon. No specimen in Thoreau herbarium or specific reference to this in his *Journal*. The "who" and "when" of the introduction of this plant into Concord is unknown. The first appearance and reference to it in Concord date from 1886. There is the first voucher collection of Martha Bartlett as noted below, and there are two letters of Edward Hoar to Walter Deane. In his letter to Deane dated September 12, 1886 Hoar writes: "Miss Martha Bartlett sent me a leaf of Nelumbium luteum gathered this year in Concord River." Then a week later on September 19 Hoar writes to Deane: "I found vesterday a great patch of Nelumbium luteum growing in a retired cove of the Assabet [River]; - leaves only, no flowers or seed. Some active botanist sowed the seed." These letters are in possession of the Harvard University Botany Libraries. That Edward Hoar in 1886 did not know the origin of this plant in the very year it was first collected or mentioned in Concord, suggests that we will never know. Walter Deane collected this in a cove in the Assabet River on July 23, 1893 (GH specimen). Eaton collected this on July 25, 1957 in the southeast corner of Bateman's Pond (BEDF specimen). In his Flora Eaton notes its abundance in the Great Meadows impoundment and that a single plant was found in the Sudbury River near Clamshell Bluff in 1971, collected by C.B. Hellquist on September 7, 1971 (MASS specimen). Eaton's speculation that its occurrence in Bateman's Pond might be indigenous is extremely doubtful given the discussion above. This was abundant in the Great Meadows impoundments and occasional in the Concord River close by when this author was in Concord in the late 1970s and early 1980s. In 2021 Cherrie Corey reports that it remained abundant at Great Meadows in spite of an effort to eliminate it about 10 years previously. Voucher specimen in NEBC collected by Martha Bartlett in September 1886 "Concord River - Introduced." Link to image.



Nelumbo lutea (American Lotus) Great Meadows, Concord, MA August 3, 1974, by Ray Angelo

**Nyctaginaceae** (GM8: same; TH: same)

MIRABILIS ALBIDA (GM8: Mirabilis hirsuta; TH: not treated in the manuals used by Thoreau)

Pratt and Hosmer do not list this. Eaton says it is rare. No specimen in Thoreau herbarium or reference to this in his *Journal*. Voucher specimen in NEBC (and in GH) collected by Eaton on September 10, 1932 abundant on a "sandy knoll" near Musketaquid Road where it was under observation for 20 years. Link to image.

MIRABILIS NYCTAGINEA (GM8: same; TH: Oxybaphus nyctagineus) WILD FOUR-O'-CLOCK

Pratt and Hosmer do not list this. Eaton says it is rare. No specimen in Thoreau herbarium or reference to this in his *Journal*. Laurence E. Richardson collected this on June 27, 1961 near Barrett's Mill (BEDF specimen). On June 3, 1981 this author found it in flower in a waste area off Laws Brook Road. Voucher specimen in NEBC collected by Eaton on June 16, 1957 in open ground adjacent to site of Angier's Mill. <u>Link to image</u>.

## **Nymphaeaceae** (GM8: same (in part); TH: same)

Nuphar microphylla (GM8: Nuphar microphyllum; TH: Nuphar kalmiana, Nuphar lutea var. kalmiana)

SMALL YELLOW POND-LILY

Pratt does not list. It is included without comment in an addendum of three loose pages associated with his manuscript after his death. Hosmer simply notes it in the River [presumably Sudbury/Concord]. Eaton says it was formerly common, becoming scarce.

Specimens in Thoreau herbarium without date or locality. There are about 30 references to this in Thoreau's *Journal*, but these would also include the somewhat frequent hybrid Nuphar X rubrodisca. J.M. Greenman collected this on August 30, 1886 in the Concord River (GH). Voucher specimen in NEBC collected by Edward Hoar in August 1879 in deep water above Dennis's shore on the Concord [Sudbury] River. Link to image.

Nuphar variegata (Nuphar variegatum; TH: Nuphar advena)
BULLHEAD-LILY

Pratt simply notes habitat. Hosmer says this is common. Eaton calls it very common. Specimen in Thoreau herbarium without date or locality. There are about 16 references to this in Thoreau's *Journal*. C.B. Hellquist collected this on August 4, 1970 in the Sudbury River (MASS specimen). Colleen M. Handel collected this on August 2, 1972 in Hutchin's Pond in the Estabrook Woods (BEDF specimen). Voucher specimen in NEBC collected by Edward Hoar on June 11, 1858 in the Concord River. Link to image.

Nymphaea odorata subsp. odorata (GM8: same; TH: same (in part)) FRAGRANT WATER-LILY

Pratt says this abundant in the river and in muddy ponds. Hosmer calls this rather common (including his var. minor). Eaton says this was formerly abundant but recently becoming scarce, likely due to river pollution. Specimens in Thoreau herbarium without dates with at least some collected at Loring's Pond [Warner's Pond], matching his *Journal* references on June 3 and July 5, 1856. There are about 98 references in Thoreau's *Journal* to this. Walter Deane collected this on October 9, 1886 in the Sudbury River, possibly with Edward Hoar when Hoar collected part of his voucher specimen since Hoar would refer to the Sudbury River as the "Concord River" and the two men were in communication that year in September (GH specimen). Voucher specimen in NEBC collected by Edward Hoar on August 18, 1858 on the Concord River. Link to image.

NYMPHAEA ODORATA subsp. TUBEROSA (GM8: Nymphaea tuberosa; TH: not scientifically described until 1865, would have been included in Nymphaea odorata subsp. odorata in Thoreau's time)

MAGNOLIA WATER-LILY

Pratt and Hosmer do not distinguish this from Nymphaea odorata subsp. odorata, but would not likely have seen it as noted below. Eaton simply states that C.B. Hellquist reports (ca. 1974) that this plant is more common in the Sudbury River than Nymphaea odorata subsp. odorata, perhaps because of the basic character of the river water owing to pollution. No specimen in Thoreau herbarium. Although some of Thoreau's references to Nymphaea odorata subsp. odorata could include this subspecies, the evidence is that this did not appear in Middlesex County, MA until the mid- to late  $20^{\rm th}$  century having spread from western New England where it is more likely native, and C.B. Hellquist (pers. comm. 2014) agrees with this conclusion. Laurence E. Richardson collected this in the Assabet River ca. 1960 (BEDF specimen). Voucher specimen in NEBC collected by C.B. Hellquist on September 7, 1971 in the Sudbury River at Route 2. Link to image.

**Nyssaceae** (GM8: same; TH: Cornaceae (in part)) Nyssa sylvatica (GM8: same; TH: Nyssa multiflora) BLACK TUPELO

Pratt simply states that this is scattered through moist woods in the North part of town. Hosmer merely notes it at Ball's Hill. Eaton says it is frequent. No specimen in Thoreau herbarium from Concord. There are about 49 references to this in Thoreau's *Journal*. Jarvis

collected this and noted it on July 8, 1835 at "Edge of meadow; foot of cliffs NE of [Fair] Haven Pond," (MASS specimen without the date from Jarvis notes). Eaton collected this on February 28, 1965 in low woods at the edge of the river meadow at Great Meadows National Wildlife Refuge (NEBC specimen). Lynn A. Maguire and Phil Nelson collected this on July 18, 1972 about 200 meters east of Estabrook Road just south of Tanager Trail in the Estabrook Woods (BEDF specimen). This author found it near the entrance to the Great Meadows Wildlife Refuge, at Walden Pond and other places. Voucher specimen collected in NEBC by Edward Hoar on August 25, 1857 at junction of North and South Branches [Egg Rock]. Link to image.

## Oleaceae (GM8: same; TH: same)

FORSYTHIA SUSPENSA (GM8: same, including var. fortunei; TH: not treated in the manuals used by Thoreau)

### WEEPING FORSYTHIA

Pratt and Hosmer do not list this. Eaton says it is rare. No specimen in Thoreau herbarium or reference to this in his *Journal*. Eaton collected this on June 5, 1970 with E.P. ("Penny") Logemann in a dry roadside thicket at the edge of deciduous woods at Conantum (NEBC specimen). On July 15, 1981 this author found it with Paronychia canadensis in a boulder group east of Bateman's Pond (not the primary cliffs at the edge of the pond). Voucher specimen in NEBC collected by Eaton on August 6, 1958 at Conantum on the west side of Fairhaven Bay in talus of a dioritic ledge in deciduous woods where thoroughly naturalized. Link to image.

Fraxinus americana (GM8: same; TH: same)

WHITE ASH

Pratt says this is common. Hosmer calls it rather common. Eaton says it is frequent, occasionally abundant. Specimen in Thoreau herbarium from Farrar's corner at Walden [most likely northeastern corner near land belonging to Willard T. Farrar surveyed by Thoreau in April 1857] without date, two other specimens without locality of which only one is partially dated [May 29]. There are about 42 references to this in Thoreau's *Journal*. Eaton collected this on June 25, 1960 in the crevice of a dioritic ledge at Martha's Point (NEBC specimen). Voucher specimen in NEBC collected by Eaton on June 22, 1935 in rich moist or dryish woods in the Town Forest, <u>Link to image</u>.

Fraxinus nigra (GM8: same; TH: Fraxinus sambucifolia) BLACK ASH

Pratt says this is rather rare, noting it in a swamp north of Punkatasset Hill. Hosmer does not list this. Eaton calls it rare. Specimens in Thoreau herbarium without date or locality except one simply dated June 6. There are about 26 references to this in Thoreau's *Journal*. On May 21, 1851 he mentions finding this in Miles's Swamp [at Conantum]. On August 31, 1851 he notes it in the Cohush Swamp in Conantum. On April 16, 1852 he believes he might have found this in Conant's orchard by the river [Sudbury River]. On April 2, 1859 he records that a tree at Miles Swamp was 18 inches in diameter and had 48 rings. Walter Deane collected this on July 14, 1886 at Martha's Point (NEBC specimen). Eaton collected this on June 15, 1958 at a marshy brook-side in woods on the bank of Second Division Brook about one half mile south of the new pond [Musketaquid Pond], a young tree (NEBC specimen). On June 13, 1979 this author found it scattered on the northern edge of the lime quarry swamp in Estabrook Woods. On June 25, 1979 this author found a single small tree of this at Well Meadow Head. On September 16, 1979 this author found it along a brook

west of Annursnack Hill. This author collected it on May 14, 1981 in the Estabrook Woods on the east edge of a long narrow swamp south of Bateman's Pond and west of Hugh Carghill Road (BEDF specimen). Voucher specimen in NEBC collected by Edward Hoar on September 20 [no year] near the [Sudbury] River shore at Conantum. Link to image.

Fraxinus pennsylvanica (GM8: same, including var. austini & var. subintegerrima; TH: Fraxinus pubescens, Fraxinus viridis)

**RED ASH** 

Pratt and Hosmer do not list this. Eaton says this is occasional. No specimen in Thoreau herbarium. There is possibly one reference to this in Thoreau's *Journal*. On May 21, 1853 he refers to a reddish-ash at the Island [Egg Rock area]. Eaton collected this on August 7, 1957 at the edge of causeway near Flint's Bridge (BEDF specimen). Eaton collected this on September 20, 1964 on the bank of the Concord River near southeast abutment of the Old North Bridge (NEBC specimen). On April 21, 1976 this author saw it at the Old Calf Pasture which is in the vicinity of Egg Rock. This author collected it on September 12, 1975 and February 25, 1979 with Mary Walker and Jean Baxter at the Lowell Road bridge (BEDF specimen). On October 25, 1981 James Hinds and this author measured one of these on the Old North Bridge grounds on the east side of the Concord River as 4 feet 11 inches in girth at breast height and 75 feet high. In 2021 Cherry Corey reported this as infrequent. Voucher specimen in NEBC collected by Walter Deane on July 6, 1886 on the bank of River [Sudbury/Concord]. Link to image.

LIGUSTRUM OBTUSIFOLIUM subsp. OBTUSIFOLIUM (GM8: same; TH: not treated in the manuals used by Thoreau)

AMUR PRIVET

Pratt, Hosmer and Eaton do not list this. No specimen in Thoreau herbarium or reference to this in his *Journal*. Voucher specimens in NEBC and BEDF collected by this author on June 13 and September 27, 1981 in rich woods on the northeast slope of Poplar Hill, about a dozen shrubs and a number of seedlings. Link to image.

SYRINGA RETICULATA subsp. RETICULATA (GM8: not treated; TH: not scientifically described until 1851, not treated in manuals used by Thoreau)

JAPANESE TREE LILAC

Pratt, Hosmer and Eaton do not list this. No specimen in Thoreau herbarium or reference to this in his *Journal*. Voucher specimen in NEBC collected by this author in the company of Dr. John Dolan on June 24, 1983 in the Pratt area southwest of Punkatasset Hill in rich woods along trail, well-established with many seedlings, but subsequently destroyed by major landscaping operations. Link to image.

SYRINGA VULGARIS (GM8: same; TH: same)

**COMMON LILAC** 

Pratt does not list this. Hosmer says it is common. Eaton calls it occasional. No specimen in Thoreau herbarium. There are about 29 references to this in Thoreau's *Journal* under the generic common name, "lilac." Most if not all references would be to planted specimens. Voucher specimen in NEBC collected by Eaton on August 18, 1935 in the Town Forest at roadside. <u>Link to image</u>.

## **Onagraceae** (GM8: same; TH: same (in part))

Chamaenerion angustifolium subsp. circumvagum (GM8: Epilobium angustifolium; TH: Epilobium angustifolium)

**FIREWEED** 

Pratt simply mentions habitat and adds that it is also frequent in dry bushy pastures. Hosmer and Eaton say it is common. Specimen in Thoreau herbarium without date or locality. There are about nine references to this in Thoreau's *Journal*. Eaton collected this on July 19, 1920 in an upland clearing along Estabrook Road (BEDF specimen). Voucher specimen in NEBC collected by Edward Hoar on August 9, 1858. Link to image.

Circaea alpina subsp. alpina (GM8: same; TH: same)

## SMALLER ENCHANTER'S NIGHTSHADE

Pratt simply notes this at the foot of the hill on the right of the [Cambridge] Turnpike, just beyond the little brook near Lincoln line, and also on the borders of the old Saw Mill Brook. Hosmer calls this common [in the Concord vicinity, as the the Flora of Middlesex County, Massachusetts (1888) has this as generally distributed but not as common as Circaea canadensis]. Eaton says this is rare. Specimen in Thoreau herbarium collected at the [Nine Acre] Corner Spring without date, another on August 11, 1856 without locality but on a day he was visiting the area of the Corner Spring, and two specimens without date or locality. There are about nine references to this in Thoreau's Journal, but the inadequacy of the manuals of Thoreau's time make his identifications open to question. Eaton on his voucher specimen cited below notes finding this on July 2, 1960 in boggy woods at the headwaters of Jenny Dugan Brook. Laurence E. Richardson collected this on July 2, 1960 at the Conantum Bog [probably Kalmia Swamp] (BEDF specimen). On July 9, 1982 this author found it in flower near the head of Well Meadow and collected it there on July 11, 1982 (BEDF specimen). Voucher specimen in NEBC and BEDF collected by Eaton on July 16, 1958 in swampy woods in the Town Forest near Brister's Spring. Link to image.

# Circaea canadensis (GM8: Circaea quadrisulcata var. canadensis; TH: Circaea lutetiana) COMMON ENCHANTER'S NIGHTSHADE

Pratt simply notes this in shady places along the borders of the Saw Mill Brook and north of Punkatasset Hill. Hosmer says this is common. Eaton calls it uncommon. Specimens in Thoreau herbarium collected from Bittern Cliff [Martha's Point], Muhlenbergii Brook, and Saw Mill Brook [most likely in Lincoln, MA], all undated. There are about seven references to this in Thoreau's *Journal*, but the inadequacy of the manuals of Thoreau's time make his identifications open to question. Voucher specimen in BEDF collected by Eaton on July 16, 1958 in moist glade about 250 meters south of Martha's Point where abundant. Image not available

Epilobium ciliatum subsp. ciliatum (GM8: Epilobium glandulosum var. adenocaulon; TH: not treated in the manuals used by Thoreau, would have been included in Epilobium coloratum) Pratt and Hosmer do not list this. Eaton lists this in an appendix as probably in Concord. No specimen in Thoreau's herbarium. Voucher specimen in GH collected by Emile F. Williams on August 29, 1908 with no locale within Concord given. Link to image.

Epilobium coloratum(GM8: same; TH: same)

### **EASTERN WILLOW-HERB**

Pratt says this is frequent. Hosmer and Eaton call it common. Specimens in Thoreau herbarium without date or locality. There are about 16 references to this in Thoreau's *Journal*. Jarvis notes this on July 24, 1834 at side of mill dam back of shops. Pratt and Thoreau would not have distinguished this from Epilobium ciliatum. C.C. Field collected this on August 15, 1834 at Sleepy Hollow [Cemetery] (MASS specimen). Eaton collected this on

August 16, 1953 in wet gravel on his woodlot near Goose Pond (BEDF specimen). Laurence E. Richardson collected this on September 6, 1960 in Nobles Meadow along Lowell Road (BEDF specimen). Cherrie Corey reported (2014) this still common, finding it at Great Meadows, Moore's Swamp, the upper Spencer Brook valley, with many stations. Voucher specimen in NEBC collected by Edward Hoar on August 25, 1857 at the North Branch [Assabet River] in low land. Link to image.

Epilobium leptophyllum (GM8: same; TH: Epilobium palustre var. lineare)

Pratt says this is common. Hosmer lists this (as Epilobium lineare) without comment. Eaton calls it infrequent. Specimen in Thoreau herbarium collected from Moore's Swamp on August 12, 1856. There are about four references to this in Thoreau's *Journal*. Voucher specimen in NEBC collected by Edward Hoar on June 28, 1858. Link to image.

Ludwigia alternifolia (GM8: same; TH: same)

#### **SEEDBOX**

Pratt says this is rare, noting it only in thickets near the Estabrook place, and remarking that Mr. [George] Bradford once found a single plant on the roadside near Richard Barrett's. Hosmer simply mentions this at Hudson's Meadow. Eaton also says this is rare. Specimens in Thoreau herbarium without date or locality. There are about eight references to this in Thoreau's Journal. On July 11, 1853 he notes this just starting to flower at the entrance to poke-logan near the Assabet Bathing-Place. On August 17, 1856 while walking with Pratt near Pratt's house he mentions this at roadside this side of H. Shattuck's [evidently Monument Street]. On August 27, 1856 he refers to it still in flower abundant in Cardinal Ditch twenty rods from the road. On December 17, 1859 he appears to remark on it in the vicinity of Pout's Nest [Wyman's Meadow] at Walden Pond. Edward Hoar's NEBC specimens of this from the bog [Heywood's Meadfow] just south of Walden Pond are in Lincoln, MA. F.W. Hunnewell 2<sup>nd</sup> collected this on August 17, 1913 at the shore of Walden Pond (GH specimen). David Boufford, Brian Connolly, Charles Davis and Yan Hou collected this on September 21, 2012 at the northwestern cove at Walden Pond, likely Thoreau's find near Pout's Nest [Wyman's Meadow] at Walden Pond (NEBC specimen). Voucher specimen in NEBC (and in BEDF) collected by Laurence E. Richardson on July 10, 1964 at the edge of an open meadow at a bank of the Assabet River about 50 meters east of Spencer Brook [vicinity of Thoreau's 1853 *Journal* reference]. Link to image.

Ludwigia palustris (GM8: same, including var. americana; TH: same) COMMON WATER-PURSLANE

Pratt says this is abundant in wet ditches, etc. Hosmer and Eaton call it common. Specimens in Thoreau herbarium without date or locality. There are about 14 references to this in Thoreau's Journal. Jarvis collected this with C.C. Field on August 9, 1834 on bank of river [Sudbury River] near Benj.[amin] Hallowell's (Thoreau's Hollowell's Place) [MASS specimen]. Eaton collected this on October 10, 1957 submerged in a pool of a flowing branch of Mill Brook north of the Cambridge Turnpike (BEDF specimen). Laurence E. Richardson collected this on August 11, 1961 at the Assabet River (BEDF specimen). Voucher specimen in NEBC collected by Emile F. Williams on Sept. 17, 1899 on the banks of a river. Link to image.

Ludwigia sphaerocarpa (GM8: same, including var. macrocarpa; TH: same)

Pratt and Hosmer do not list this. Eaton lists it only in an appendix as unlikely, perhaps probable, in Concord. Specimens in Thoreau herbarium without date or locality. There are about seven references to this in Thoreau's *Journal*. On August 18, 1854 he expresses surprise at finding it in blossom for some time in a wet place about twenty rods off the bars to the path that leads down from near Pedrick's. On August 22, 1854 he again refers to this from this locale as growing in shallow muddy pools or pond-holes at the lower end of the

Great Meadows between the Concord River and the firm land. On August 28, 1854 he notes finding it further along the Concord River in the Bedford meadows. Voucher specimen in BEDF collected by Wallace O. Fenn on October 5, 1912 on a muddy shore. Image not available.

Oenothera biennis (GM8: same; TH: same (in part)) COMMON EVENING-PRIMROSE

Pratt says this is common everywhere (and would include Oenothera parviflora). Hosmer calls it very common (and would include Oenothera parviflora). Eaton also says it is common. Specimens in Thoreau herbarium without date or locality. There are about 22 references to this in Thoreau's *Journal* but some of these would be to Oenothera parviflora that was included as a variety of Oenothera biennis in Thoreau's time. Eaton collected this on August 14, 1957 at the dry edge of a roadside thicket at the west end of White Pond (BEDF specimen). K. Shea and B. Blair collected this on August 16, 1977 in thickets at the edge of a deep marsh area at Great Meadows National Wildlife Refuge (MASS specimen). Voucher specimen in NEBC collected by Edward Hoar on July 6, 1857 with no locale within Concord given. Link to image.

OENOTHERA GAURA (GM8: Gaura biennis; TH: Gaura biennis)

Pratt and Hosmer do not list this. Eaton says this is rare. No specimen in Thoreau herbarium or reference to this in his *Journal*. Voucher specimen in NEBC collected Eaton by September 9, 1938 in fallow field at Clamshell Bluff. Link to image.

Oenothera parviflora (GM8: same; TH: Oenothera biennis var. parviflora)

Pratt and Hosmer would not have distinguished this from Oenothera biennis. Eaton says this is uncommon. No specimen in Thoreau herbarium or specific reference to this in Thoreau's *Journal*. Voucher specimen in NEBC collected by Eaton on July 16, 1961 in moist, peaty soil with the topsoil removed in French's Meadow near the Sudbury River, south of Fair Grounds brook and between new houses and the river, where very scarce. <u>Link to image</u>.

Oenothera perennis (GM8: same; TH: Oenothera pumila)
LITTLE SUNDROPS

Pratt says this is common in moist grounds. Hosmer also calls it common. Eaton says it is frequent. Specimens in Thoreau herbarium without date or locality. There are about 12 references to this in Thoreau's *Journal*. Eaton collected this on June 10, 1957 in springy ground in a meadow of Spencer Brook (BEDF specimen). In 2021 Cherrie Corey reported this to be infrequent. Voucher specimen in NEBC collected by Horace Mann, Jr. on June 19, 1862 with no locale within Concord given. Link to image.

**Orobanchaceae** (GM8: Orobanchaceae + Scrophulariaceae (in part); TH: Orobanchaceae + Scrophulariaceae (in part))

Agalinis purpurea var. parviflora (GM8: Gerardia paupercula; TH: Gerardia purpurea) Pratt and Hosmer say this is common. Eaton calls it frequent. Specimens in Thoreau herbarium collected without date or locality. There are about 16 references to this in Thoreau's *Journal*. Eaton collected this on August 15, 1930 in a rich, moist pond hole on his woodlot in the vicinity of Goose Pond (BEDF specimen), and on August 17, 1957 in a dry, old pasture northeast of Bateman's Pond (NEBC specimen). Jean Baxter collected this on September 6, 1976 on a wet, gravelly shore of a Timber Trail bog at Great Meadows National Wildlife Refuge (BEDF specimen). Voucher specimens in NEBC collected by Edward Hoar on August 24, 1857 on the eastern shore of Walden Pond. Link to image.

Agalinis tenuifolia (GM8: Gerardia tenuifolia, including var. parviflora; TH: Gerardia tenuifolia)

Pratt simply notes habitat. Hosmer does not list this. Eaton says it is frequent (but in his unpublished notes has it as not common). Specimen in Thoreau herbarium collected on Owl Nest Swamp path on August 29, 1857, and others not in Concord. There are about five references to this in Thoreau's *Journal*, but only one is to occurrence in Concord. On August 29, 1857 Thoreau remarks on finding a new plant to Concord, in prime of flowering at the entrance to Owl Nest Swamp Path and generally in that vicinity. Eaton collected this on August 19, 1920 on a hill southwest of Martha's Point near the house of T.M. Shaw (BEDF specimen). Voucher specimen in NEBC collected by Edward Hoar in August 1879 at Conantum Cliff. Link to image.

Aureolaria flava (GM8: Gerardia flava; TH: Gerardia quercifolia, Gerardia glauca) Pratt says this is rare, noting a few plants under the Cliffs at Fairhaven Hill, and near the Sugar Maple Grove [in Conantum]. Hosmer mentions it only at the Cemetery [Sleepy Hollow] and at Conantum. Eaton says it is rare. Four specimens in Thoreau herbarium without date or locality. There are about eight references to this in Thoreau's *Journal*. On August 7, 1853 he mentions it in the open oak wood beneath the Cliff [Fairhaven] in the steep path and by its side. On August 12, 1853 while boating and berrying at Conantum with three ladies he finds this at Bittern Cliff [Martha's Point]. The following year on August 2 he mentions it in flower again at Bittern Cliff. Voucher specimens in GH are those in Thoreau's herbarium, as all his *Journal* references are to occurrence in Concord. Link to image.

Aureolaria pedicularia (GM8: Gerardia pedicularia, including var. intercedens; TH: Gerardia pedicularia)

Pratt says this is common, especially abundant near Goose Pond. Hosmer also calls it common. Eaton says it is occasional. Specimens in Thoreau herbarium without date or locality. There are about 16 references to this in Thoreau's *Journal*. Eaton collected this on October 6, 1957 in dry oak woods near Goose Pond on the east side (BEDF specimens). Laurence E. Richardson collected this on August 15, 1960 at Martha's Point (BEDF specimen). Unlike Eaton this author found this more to be infrequent and saw it at the foot of Ball's Hill on the river side, locally abundant at the entrance to the large parking lot at Walden Pond, on the north shore of Walden Pond, at Martha's Point, at roadside by Sleepy Hollow Cemetery, and a few plants of the rare var. intercedens (not recognized here) behind a residence on the south side of Monsen Road. Voucher specimen in NEBC collected by Edward Hoar in Walden Woods [no date]. Link to image.

Aureolaria virginica (GM8: Gerardia virginica; TH: Gerardia flava - misapplied)
DOWNY FALSE FOXGLOVE

Pratt simply notes this in woods east of the Nine-Acre Corner School house, and near Bateman's Pond. Hosmer lists this without comment. Eaton lists this only in an appendix as probably in Concord. Specimen in Thoreau herbarium collected up railroad without date and multiple specimens without date or locality. There are about 10 references to this in Thoreau's Journal. On August 31, 1851 he reports seeing it at Conant's Grove. On July 28, 1853 he notes it in the hickory grove behind Lee's Cliff in flower for some days. On August 7, 1853 he mentions it in the open oak wood beneath the Cliff [Fairhaven] in the steep path and by its side. On July 22, 1854 on his way to Assabet Bath he records finding it in blossom on Lupine Hillside up railroad [toward West Concord and corresponding to his herbarium specimen collected "up railroad"], near fence. On January 6, 1858 on his way up railroad to North River [Assabet River] he refers to this as up railroad near a very tall tupelo

and a white oak tree. Voucher specimen in GH is the Thoreau herbarium specimen collected up railroad. Link to image.

Castilleja coccinea (GM8: same; TH: same)

SCARLET PAINTED-CUP

Pratt says this is rare, noting it in moist places in Nine-Acre Corner, the foot of Annursnack Hill, and formerly on the south side of Punkatasset Hill, in which place he adds that it has been exterminated, as he cautions it will soon be in the other localities, every flower that can be found being thoughtlessly plucked. Hosmer notes this at Hayward's Swamp [south side of Annursnack Hill], his last flowering date for it recorded on May 11, 1902 the year before he died (May 7, 1903). Eaton also calls this rare, formerly abundant in meadow at foot of Annursnack Hill on the south side, now apparently exterminated. Specimens in Thoreau herbarium without date or locality, and one yellow one that can be associated with Thoreau's Journal entry for May 29, 1856 where Edith Emerson (1841-1929) found the perfectly vellow one in Painted-Cup Meadow with him. There are about nine references to this in his Journal. On May 8, 1853 (age nearly 36) he expresses surprise at first finding the brilliant pale scarlet blossoms of this in Concord at the foot of Annursnack Hill rising from Jesse Hosmer meadow. He goes on to remark with evident astonishment "how long some conspicuous ones [wildflowers] may escape the most diligent walker, if you do not chance to visit their localities the right week or fortnight, when their signs are out." All other Thoreau *Iournal* entries for occurrence in Concord refer to this one station. The fact that he never found the two other locales for this conspicuous wildflower in Concord located by Pratt reinforces dramatically the point that even the most avid and sharp-eyed botanist, with free access to all parts of a town, will not be able to get a measure of the flora of a town such as Concord, even after decades of exploring it intensely. Jarvis notes this on in May 1834 and on June 10, 1835 in Merrick's Meadow [which included today's Old Calf Pasture]. As of 2014 there were no known remaining stations for this in the state of Massachusetts. Voucher specimen in NEBC collected by Edward Hoar on June 14, 1858 in meadow at the foot of Nusneck [Annursnack Hill]. Link to image.

Melampyrum lineare (GM8: same, including var. americanum; TH: Melampyrum americanum) AMERICAN COW-WHEAT

Pratt, Hosmer and Eaton say this is common. Specimens in Thoreau herbarium without date or locality. There are about 14 references to this in Thoreau's *Journal*. Laurence E. Richardson collected this on August 24, 1960 along Fairhaven Road (BEDF specimen). Voucher specimen in NEBC collected by Eaton on August 14, 1957 on a dry wooded bank on the west side of White Pond. Link to image.

Orobanche uniflora (GM8: same; TH: same, Aphyllon uniflorum) ONE-FLOWERED CANCER-ROOT

Pratt says this is rare in Concord, noting it in small quantity for several years on the roadside south of Richard Barrett's, also on roadside leading to Nine-Acre-Corner, and Hosmer showing him a specimen gathered from the low ground southwest of the Depot of the Middlesex Central Rail Road. Hosmer calls this not uncommon [in the Concord vicinity]. Eaton says it is uncommon, often transient (as it is parasitic on various plants, especially Solidago). Specimens in Thoreau herbarium without date or locality. There are about 9 references to this in Thoreau's *Journal*. On June 13, 1852 he notes it at Conantum and also records that Channing found it at Clematis Brook in Lincoln the day before, which he confirms on June 15. On June 21, 1852 he mentions finding it in Love Lane under an oak. On May 25, 1856 he refers to it on the Cliffs [Fairhaven]. On May 29, 1856 he lists it as among those noteworthy plants in the Painted Cup [Castilleja coccinea] Meadow at the foot

of Annursnack Hill. A specimen without year or particular locale in Concord collected by Pratt's young daughter, Caroline Pratt, is in NEBC. Voucher specimen in NEBC collected by Eaton on May 31, 1921 at Clamshell Bluff near a spring on a wet, grassy bank among Solidago and Rubus [Thoreau's *Journal* reference of June 5, 1855 might be to occurrence at this same location]. Link to image.

Pedicularis canadensis (GM8: same; TH: same) WOOD BETONY

Pratt and Hosmer say this is common. Eaton calls it uncommon. Specimen in Thoreau herbarium without date or locality. There are about eight references to this in Thoreau's *Journal*. On May 22, 1854 he notes it on Fairhaven Hill. On May 29, 1856 he lists it as among those noteworthy plants in the Painted Cup [Castilleja coccinea] Meadow at the foot of Annursnack Hill. Laurence E. Richardson collected this on June 28, 1961 in Boulder Field (BEDF specimen). Voucher specimen in NEBC collected by Edward Hoar on July 6, 1857 without locale in Concord given. Link to image.

## **Oxalidaceae** (GM8: same; TH: same)

OXALIS MONTANA (GM8: same; TH: Oxalis acetosella - misapplied) MOUNTAIN WOOD-SORREL

Pratt says he introduced this from Mt. Wachusett, Massachusetts and notes it near Punkatasset Hill. Hosmer simply notes this in Pratt's Woods west of Punkatasset Hill. Eaton calls this rare, noting it had not been seen for many years in Concord and that it was perhaps extirpated. No specimen in Thoreau herbarium from Concord. There are about seven references to this in Thoreau's *Journal*, none of which are to occurrence in Concord. On July 23, 1982 this author found a small bit of this at Pratt's Spring southwest of Punkatasset Hill. On June 2, 1983 this author photographed it at this site (see image below). This was obviously a remnant of Pratt's introduction and likely the only place he put it in Concord. Voucher specimen in NEBC collected by Horace Mann, Jr. in 1862 with no locale specified. Link to image.



Oxalis montana (Mountain Wood-sorrel), Pratt's Spring, Concord, MA June 2, 1983, by Ray Angelo

Oxalis stricta (GM8: same + Oxalis europaea; TH: same)

Pratt says this is a common weed. Hosmer calls it very common (as Oxalis corniculata var. stricta). Eaton says it is common. Specimens in Thoreau herbarium without date ot locality. There are about seven references to this in Thoreau's *Journal*. Eaton collected this on August 10, 1958 at the sphagnous, shaded edge of Second Division Brook near the upper end of the upper pond (BEDF specimen). Voucher specimen in NEBC collected by Eaton on August 12, 1968 on the gravelly edge of a cart track on the south side of Annursnack Hill. <u>Link to image</u>.

Oxalis violacea (GM8: same; TH: same)
VIOLET WOOD-SORREL

Pratt says this is rare, found in small quantity near the falls on the old Mill Brook [Thoreau mill site north of Punkatasset Hill, near the river [Concord] in front of Mr. Tiletson's, and on Ball's Hill. Hosmer simply notes this at the Millrace [Thoreau mill site] and in rocks near river [Concord] in front of Rev. C. Hutchins. Eaton calls this rare, present status in Middlesex County unknown. Specimen in Thoreau herbarium without date or locality. There are about seven references to this in Thoreau's Journal. On September 28, 1856 he mentions the violet wood-sorrel wall while visiting "the old mill-site behind Ponkawtasset [Punkatasset Hill]" [Thoreau mill site]. On June 7, 1857 walking with Pratt in the vicinity of Punkatasset Hill and the Concord River he mentions this plant, and that Pratt found it starting to flower on May 31 of that year, Pratt remarking that it blossoms but sparingly. On June 9, 1857 he visits this plant either at the Millrace site or by the Concord River. On July 7, 1860 in a list of springs in Concord he includes a Violet Sorrel Spring [also referred to on September 1, 1858] giving the alternate name in parentheses "N. Barrett's." Nathan Barrett's residence was on the southeast slope of Punkatasset Hill facing the Concord River which is at the bottom of the slope. On May 22, 1982 this author relocated it beside a stone wall near the Thoreau Pencil Factory site in the Estabrook Woods. It was confirmed at this site by Bryan Connoly and Charles Davis in 2013. This latter station was known to Pratt, Thoreau and Hosmer. As of 2014 this species was considered endangered in Massachusetts with only five stations seen in the state in the last 20-25 years. Voucher specimen in NEBC collected by Horace Mann, Ir. in 1862 with no locale within Concord given. Link to image.

**Papaveraceae** (GM8: same; TH: Papaveraceae + Fumariaceae) ADLUMIA FUNGOSA (GM8: same; TH: Adlumia cirrhosa)

CLIMBING FUMITORY

Pratt lists this as introduced, presumably by him. Hosmer only notes this from Lincoln, MA, but a specimen he collected in Concord without specific locale is in NEBC. Eaton says this is rare. Specimen in Thoreau herbarium without date or locality, but almost certainly from Minot Pratt's garden. There is one reference to this in Thoreau's *Journal*. On August 17, 1856 while visiting Pratt he mentions that Pratt had this in his garden and that it grew in Maine. On May 25, 1980 this author found it at the Conantum Cliffs, and on June 21, 1980 in flower at these cliffs. On July 24, 1980 this author photographed it still flowering at these cliffs. This is a likely place for Pratt to have introduced it after the time of Thoreau's death. Voucher specimen in GH collected by David Potter on August 12, 1938 as a weed in a stone wall. Link to image.

Capnoides sempervirens (GM8: Corydalis sempervirens; TH: Corydalis glauca)
PALE CORYDALIS

Pratt simply notes the habitat. Hosmer just mentions it at Bateman's Pond, Nine Acre Corner and Conantum, adding that at Conantum in 1899 it covered ground where a wood lot had been burned over and the wood lot had not been cut off for 25 years. Eaton says this is rare. Specimens in Thoreau herbarium without date or locality. There are about 13 references to this in Thoreau's Journal. On September 21, 1856 he notes with surprise some large (two and a half feet high), very fresh plants of this still well in bloom and going to seed on the top of Fairhaven Cliffs by a large rock where Wheeler had burned in the spring and later cut rye. On October 2, 1856 he reports it still fresh at Fairhaven Cliffs. On May 29, 1858 he refers to it in the Estabrook Woods either in the vicinity of Bateman's Pond or the Boulder Field. There are *Journal* references prior to 1856 where the locale is uncertain. Esther Anderson collected this on July 11, 1978 at the top of a hill near Garfield Road on part of a limestone outcrop from Martha's Point to Lee's Cliff near Fairhaven Bay (BEDF specimen). In 1981 this author found it on rocks at Bateman's Pond on the east or southern side, and on rocks near a swamp southeast of Bateman's Pond. Voucher specimen in NEBC collected by Eaton on October 29, 1922 on a dry, granite ledge at Fairhaven Cliffs where very scarce. Link to image.

## CHELIDONIUM MAJUS (GM8: same; TH: same)

#### CFI ANDINE

Pratt simply notes this in the old Burying Grounds. Hosmer and Eaton say it is common. Specimens in Thoreau herbarium without date or locality. There are about 16 references to this in Thoreau's *Journal*. Voucher specimen in NEBC collected by Edward Hoar on June 14, 1858 in Dr. Hurd's burying ground. Image not available.

## DICENTRA CUCULLARIA (GM8: same; TH: same)

## **DUTCHMAN'S-BREECHES**

Pratt says he introduced this from the west. Hosmer does not list this, but in his list of plants introduced by Pratt that was published in *Rhodora* he has it surviving at one station and also collected a specimen (in NEBC) from Concord. Eaton says its status (1974) is unknown. No specimen in Thoreau herbarium or references to this in his *Journal*. At the time of this author's voucher collection cited below this author found more of it on the west side of Monument Street further up the street toward Punkatasset Hill. On April 23, 1983 this author found it just starting to flower on the east edge of the Pratt birch field (row of planted large Betula papyrifera trees on edge of a grassy field) near Punkatasset Hill. Voucher specimen in NEBC (and BEDF) collected by this author on April 27, 1982 in rich woods between residences on the west side of Monument Street adjacent to the former Pratt residence [635 Monument Street]. Link to image.

## FUMARIA OFFICINALIS (GM8: same; TH: same)

## **FUMITORY**

Pratt simply states that this is escaped from garden culture. Hosmer does not list this. Eaton says it is rare and casual. Specimen in Thoreau herbarium without date or locality, but which can be associated with his *Journal* reference to it on June 13, 1852 (as "common fumitory") when he was journeying to Conantum. There are two references to this in Thoreau's *Journal*. Voucher specimen in GH is Thoreau's collection of it. Link to image.

## Sanguinaria canadensis (GM8: same; TH: same)

#### BLOODROOT

Pratt says this is rare, found in the north part of town. Hosmer simply notes this at Paul Dudley's and at the Millrace [Thoreau mill site in Estabrook Woods]. Eaton says this is uncommon, with two known stations. No specimen in Thoreau herbarium from Concord.

There are about four references to this in Thoreau's *Journal*, none of which are to wild occurrence in Concord. The fact that Thoreau did not see this at the mill site which is near the Oxalis violacea, which he did see there, strongly suggests that the colony, still there today (2014), was set out by Pratt after Thoreau's death. Eaton in unpublished notes reports finding this on August 6, 1958 at Conantum on rich woodlands under dioritic ledge where scarce. On April 12, 1981 this author found it in flower near the Thoreau mill site. On April 25, 1982 this author found it in flower at the Conantum Cliffs. This author also found this near the Concord River and houses of the Fenn School and in 1983 scattered stations west of Punkatasset Hill. Cherrie Corey reported that this is naturalizing well downslope beyond a stonewall in the wilder reaches of a driveway (an old cart road) of a residence on Westford Road, apparently near the Helsher Pasture location of Eaton's voucher specimen. Voucher specimen in NEBC collected by Eaton on April 30, 1922 along pasture walls in rich ground in Helsher's Pasture on Westford Road where abundant and claimed by Eaton to be the only indigenous station in Concord. Link to image.

**Penthoraceae** (GM8: Saxifragaceae (in part); TH: Crassulaceae (in part))

Penthorum sedoides (GM8: same; TH: same)

DITCH-STONECROP

Pratt and Hosmer say this is common. Eaton calls it scarce, formerly common, perhaps a casualty of river pollution. Specimens in Thoreau herbarium from Concord without date or specific locale. There are about eight references to this in Thoreau's *Journal*. Laurence E. Richardson collected this on July 18, 1970 in a fallow field seasonally flooded by the Assabet River (BEDF specimen). Voucher specimen in NEBC collected by Edward Hoar on August 10, 1857 in ditch at foot of his garden. <u>Link to image</u>.

**Phrymaceae** (GM8: Phrymaceae + Scrophulariaceae (in part); TH: Verbenaceae (in part) + Scrophulariaceae (in part))

Mimulus ringens var. ringens (GM8: same; TH: same)

Pratt, Hosmer, Jarvis and Eaton say this is common. Specimens in Thoreau herbarium without date or locality. There are about eight references to this in Thoreau's *Journal*. Cherrie Corey found a couple of plants of this at the Corner Spring in 2014. In 2021 Cherrie Corey reported this to be only occasional in the town. Voucher specimen in NEBC collected by Eaton on July 27, 1957 in low, moist pasture at G.[eorge F.] Root's Farm [Intervale Farm on Sandy Pond Road]. Link to image.

PHRYMA LEPTOSTACHYA var. LEPTOSTACHYA (GM8: same; TH: same) LOPSEED

Pratt says he introduced this from Wachusett Mountain, Massachusetts. Hosmer simply notes this at Pratt's Spring. Eaton says this rare, at a single station and not seen in recent years. Specimens in Thoreau herbarium not from Concord. There are two references to this in Thoreau's Journal, neither of which are to occurrence in Concord. On July 23, 1982 this author found no more than 10 plants of this and photographed some of them in flower near a water hole on the Russell Robb property [former Pratt residence] in the vicinity of Pratt's Spring. This area was later significantly landscaped by the owner, most likely destroying all the plants seen. While the occurrence of this as a native plant in Concord is possible, the stations near Pratt's residence were almost certainly introduced by Pratt. The occurrence near Martha's Point where Eaton collected a voucher specimen, an area well-explored by Thoreau,

Pratt and Hosmer, is very unlikely to have been missed by these predecessors of Eaton. Therefore, this is treated this as introduced to Concord. Voucher specimen in NEBC collected by Eaton on August 1, 1957 in dry, rocky woods at Martha's Point. Link to image.

## **Phytolaccaceae** (GM8: same; TH: same)

Phytolacca americana var. americana (GM8: same; TH: Phytolacca decandra) POKEWEED

Pratt simply notes its habitat and that it is particularly abundant at the top of Punkatasset Hill. Hosmer and Eaton say this is common. Specimens in Thoreau herbarium without date or locality. There are about 39 references to this in Thoreau's *Journal*. Eaton collected this on July 19, 1920 in an upland clearing along Estabrook Road (BEDF specimen). Voucher specimen in NEBC collected by Edward Hoar on August 21 [no year] coming into his garden with meadow mud, and also in great field near Red Pines on Virginia Road. Link to image.

**Plantaginaceae** (GM8: Plantaginceae + Callitrichaceae + Scrophulariaceae (in part); TH: Plantaginceae + Callitrichaceae + Scrophulariaceae (in part))

Callitriche heterophylla (GM8: same; TH: not treated in the manuals used by Thoreau, would have been included in Callitriche verna)

Pratt would have included this in his Callitriche verna which he says is common. Hosmer lists this without comment. Eaton calls this common. A specimen in Thoreau's herbarium without a date collected from Collier Ditch has been identified by Thomas Philbrick as this species. Another batch of Callitriche specimens in Thoreau's herbarium cannot be identified with certainty but are likely this species and can be associated with an unpublished *Journal* entry of August 21, 1859 collected where a small brook on the Main Street property of Moses Prichard emptied into the Sudbury River. There are about 15 references to Callitriche or Callitriche verna in Thoreau's *Journal* which would refer to this or Callitriche palustris (not yet recorded from Concord). Eaton reports in unpublished notes finding this on November 11, 1928 in Jenny Dugan Brook. Eaton collected this (incorrectly identifying it as Callitriche palustris) on July 17, 1933 in brook pool of Spencer Brook near old Worthley Farm [1227 Lowell Road] (NEBC specimen). Laurence E. Richardson collected this on July 10, 1967 in the Sudbury River and on July 20, 1967 in Warner's Pond (BEDF specimens). Voucher specimens in NEBC collected by Edward Hoar on September 1 [no year] in brook below S. Hoar's Pond [Fairyland Pond in the Town Forest]. Link to image.

CALLITRICHE STAGNALIS (GM8: same; TH: not treated in the manuals used by Thoreau) Not listed by Pratt, Hosmer or Eaton. No specimen in Thoreau herbarium or reference to this in his *Journal*. This alien species appears to have been first collected in New England on Cape Cod in 1911. Voucher specimen in CONN collected by Leslie Mehrhoff on June 4, 2009 in the southeast corner of Walden Pond. <u>Link to image</u>.

Chelone glabra (GM8: same; TH: same)

WHITE TURTLEHEAD

Pratt, Hosmer and Eaton say this is common. Specimens in Thoreau herbarium without date or locality. There are about 13 references to this in Thoreau's *Journal*. Jarvis notes in a swamp beyond Jane Cormer's bridge and back of jail. Laurence E. Richardson collected this on August 29, 1971 on a bank of the Assabet River (VT & BEDF specimens). Voucher specimen in NEBC collected by Horace Mann, Jr. in 1862 with no locale within Concord given. Link to image.

CHELONE LYONII (GM8: same; TH: not treated in the manuals used by Thoreau) PINK TURTLEHEAD

Pratt, Hosmer and Eaton do not list this. No specimen in Thoreau herbarium or reference to this in his *Journal*. On September 3, 1980 this author discovered and photographed this in blossom at the edge of a cattail marsh on Bow Street. Cherrie Corey found this in 2014 on the eastern shore of Borden Pond. Voucher specimen in NEBC collected in flower by Erika Sonder and this author on September 4, 2014 well-established at the Bow Street location in a damp thicket between the road and marsh, about 150 plants of which about 80 had started flowering. Image of specimen not available. Photo on day and place of collection below.



Chelone lyonii (Pink Turtlehead) Concord, MA, September 4, 2014 by Erika Sonder

DIGITALIS GRANDIFLORA (GM8: not treated; TH: not treated in the manuals used by Thoreau)

YELLOW FOXGLOVE

Pratt, Hosmer and Eaton do not list this. No specimen in Thoreau herbarium or reference to this in his *Journal*. On June 10, 2016 Cole Winstanley photographed this in flower (see Appendix G) in the small mown field at the trailhead to Chamberlin Woods where he found a colony of seven plants. This is the first record for Middlesex County. Voucher specimen in NEBC collected by Cole Winstanley on June 21, 2016 in a rarely mowed field a few meters from trail that leads into the Chamberlin Woods. No specimen image available.

DIGITALIS PURPUREA (GM8: same; TH: not treated in the manuals used by Thoreau) COMMON FOXGLOVE

Pratt, Hosmer and Eaton do not list this. No specimen in Thoreau herbarium or reference to this in his *Journal*. Voucher specimen in BEDF collected by Laurence E. Richardson on June 5, 1962 along Two Rod Road in the Estabrook Woods. Image not available.

Gratiola aurea (GM8: same; TH: same)

**GOLDEN HEDGE-HYSSOP** 

Pratt simply notes habitat. Hosmer and Eaton say this is common. Specimens in Thoreau herbarium with no date, one batch collected from "Gowing Pond." [Gowing's Swamp]. There are about 16 references to this in Thoreau's Journal. Jarvis notes this on July 8, 1834 at brook mile E.[east] of G.W. Hildreth. Eaton collected this on October 6, 1957 in one foot of water in sandy bottom of White Pond forming turf-like mats during abnormally low water level (NEBC specimen), and on August 2, 1930 in grassy mud flats on his woodlot in the vicinity of Goose Pond (BEDF specimen). William Countryman collected this on September 11, 1965 at water's edge on the east side of Bateman's Pond (VT specimen). David Boufford and others collected this on September 21, 2012 at the sandy margin of Walden Pond at the edge of a thicket at a cove near the northwest shore (Arnold Arboretum specimen). Voucher specimen in NEBC collected by Edward Hoar in August 1879 at edge of Pond [probably Fairhaven Bay] in Conantum Cliff pasture. Link to image.

Gratiola neglecta (GM8: same; TH: Gratiola virginiana - misapplied)

Pratt simply notes habitat. Hosmer does not list this. Eaton says it is occasional, abundant at two localities. No specimen in Thoreau herbarium or reference to this in his *Journal*, although some generic references to "Gratiola" might refer to this. Voucher specimen in NEBC collected by Eaton and Laurence E. Richardson on June 26, 1958 in wet alluvial soil near the left bank of the Assabet River near old railroad abutments, where abundant. <u>Link to image</u>.

LINARIA MAROCCANA (GM8: same; TH: not treated in the manuals used by Thoreau) MOROCCAN TOADFLAX

Pratt, Hosmer and Eaton do not list this. No specimen in Thoreau herbarium or reference to this in his *Journal*. Voucher specimen in NEBC collected by this author and Dorian Kottler on August 24, 1985 in recent clearing in woods near Sudbury River above Hubbard Bridge about one quarter mile, on the north side between a house and the river, at least a dozen plants. Link to image.

LINARIA VULGARIS (GM8: same; TH: same, Antirrhinum linaria) BUTTER-AND-EGGS

Pratt refers to this as a troublesome weed. Hosmer and Eaton say it is common. Specimen in Thoreau herbarium without date or locality. There are about 17 references to this in Thoreau's *Journal*. David Potter collected this on July 20, 1930 along roadside of Cambridge Turnpike (GH specimen). Voucher specimen in NEBC collected by Edward Hoar on August 21, 1857 along a street. Link to image.

Nuttallanthus canadensis (GM8: Linaria canadensis; TH: Linaria canadensis, Antirrhinum canadense)

### **OLD-FIELD TOADFLAX**

Pratt, Hosmer and Eaton say this is common. Specimens in Thoreau herbarium without date or locality. There are about 30 references to this in Thoreau's *Journal*. Eaton collected this on July 8, 1957 on a moist, sandy bank at Clamshell Bluff (NEBC specimen). Voucher specimen in NEBC collected by Eaton on June 22, 1930 on dry wood road near Goose Pond. <u>Link to image</u>.

# PENSTEMON DIGITALIS (GM8: same; TH: same)

Pratt does not list this. Hosmer simply notes it (as Penstemon pubescens var. digitalis) near J.S. Keyes. Eaton says it is occasional. No specimen in Thoreau herbarium or reference to this in his *Journal*. On June 22, 1979 this author found it in flower behind the Sentry Center parking lot overlooking the Sudbury River at Clamshell Bluff. Voucher specimen in NEBC collected by Eaton on July 8, 1934 in sandy field at Clamshell Bluff where abundant. <u>Link to image</u>.

# PENSTEMON HIRSUTUS (GM8: same; TH: Pentstemon pubescens)

Pratt says this is rare, stating that A.P. Chamberlain brought him specimens found near the State Prison, and that it had not been discovered elsewhere. Hosmer simply notes it near William Hunt's. Eaton calls it rare. No specimen in Thoreau herbarium or reference to this in his *Journal*. Voucher specimen in NEBC collected by F.S. Collins on July 5, 1878 with no locale within Concord given. Link to image.

PENSTEMON PALLIDUS (GM8: same; TH: not scientifically described until 1903)
Pratt and Hosmer do not list this. Eaton says it is occasional. No specimen in Thoreau herbarium. Voucher specimen in NEBC collected by Eaton and Mary McClintock on June 5, 1970 on a dry, gravelly bank in the open at Conantum, the small colony discovered by Mary McClintock in 1969. Link to image.

# PLANTAGO ARISTATA (GM8: same; TH: Plantago patagonica var. aristata) BRACTED PLANTAIN

Pratt does not list this. Hosmer simply notes this near the John Hosmer Place, at the dump on Lowell Road, and Hudson Pasture. Eaton says it is frequent, locally abundant. No specimen in Thoreau herbarium or reference to this in his *Journal*. Voucher specimen in NEBC collected by Eaton on August 7, 1957 on Thoreau Street at foot of Brister's Hill on the floor of an excavated gravel bank. Link to image.

# PLANTAGO LANCEOLATA (GM8: same; TH: same) RIBGRASS

Pratt and Hosmer say this is common. Eaton calls it abundant. Specimen in Thoreau herbarium without date or locality. There are about eight references to this in Thoreau's *Journal*. Voucher specimen in NEBC collected by Eaton on October 8, 1957 at a roadside. Link to image.

# PLANTAGO MAJOR (GM8: same: TH: same)

### **COMMON PLANTAIN**

Pratt simply notes habitat (but would have included this under Plantago rugelii). Hosmer says it is common (but might be including the common Plantago rugelii). Eaton calls it an apparently scarce weed. Specimen in Thoreau herbarium without date or locality. There is only one reference to this in Thoreau's *Journal*, but which might also be to Plantago rugelii, not distinguished in the manuals used by Thoreau. Voucher specimen in NEBC collected by Eaton on October 10, 1957 on a gravel wood-road at the entrance of the middle dyke at Great Meadows National Wildlife Refuge. Link to image.

PLANTAGO PATAGONICA (GM8: Plantago purshii; TH: Plantago patagonica var. qnaphaloides)

Pratt and Hosmer do not list this. Eaton notes that this abundant at a single locality. No specimen in Thoreau herbarium or reference to this in his *Journal*. Laurence E. Richardson collected this on July 6, 1962 northeast of Punkatasset Hill (BEDF specimen), and on June 4, 1973 in gravel and dry sand near Hutchin's Pond (VT specimen). Voucher specimen in NEBC collected by Laurence E. Richardson on June 21, 1962 at the foot of Annursnack Hill on the east side, abundant in thin gravelly soil of old pasture. <u>Link to image</u>.

Plantago rugelii (GM8: same; TH: not scientifically described until 1852 and not treated in the manuals used by Thoreau, would have been included under Plantago major)

Pratt does not list this, but would have included it under Plantago major. Hosmer does not list this, but might have included it under Plantago major. Eaton says it is abundant. No specimen in Thoreau herbarium. There is only one reference in Thoreau's *Journal* which might be to this, since it is not distinguished from Plantago major in the manuals used by Thoreau. Voucher specimen in NEBC collected by Eaton on August 14, 1957 on wood road. <u>Link to image</u>.

VERONICA ARVENSIS (GM8: same; TH: same)

CORN SPEEDWELL

Pratt simply notes habitat. Hosmer does not list this, although it is possible that he mistakenly applies to this the name "Veronica anagallis" which he calls common. Eaton says it is common. Specimens in Thoreau herbarium without date or locality or not from Concord. There are about seven references to this in Thoreau's *Journal*. Voucher specimen in NEBC collected by Eaton on June 19, 1958 on moist bank near river [Sudbury River] at the Nine Acre Corner bridge. Link to image.

VERONICA CHAMAEDRYS (GM8: same; TH: not treated in the manuals use by Thoreau) GERMANDER SPEEDWELL

Pratt and Hosmer do not list this. Eaton lists it in an appendix as unlikely in Concord. No specimen in Thoreau herbarium. Voucher specimen in BEDF collected by Laurence E. Richardson on March 25, 1972 spread from cultivation along Garfield Road. Image not available.

VERONICA OFFICINALIS (GM8: same; TH: same)

COMMON SPEEDWELL

Pratt says this is rare, having found it only on a dry hill near Mr. Wadleigh's, at the extreme north of the town where Acton, Carlisle and Concord meet, among birches and ground junipers. Hosmer and Eaton call it common. No specimen in Thoreau herbarium or reference to this in his *Journal*. Voucher specimen in NEBC collected by Eaton on October 9, 1921 on the north slope of Annursnack Hill on a moist, rocky hillside under pine. Link to image.

Veronica peregrina (GM8: same, including var. xalapensis; TH: same) PURSLANE SPEEDWELL

Pratt says this is common. Hosmer lists this without comment (and only three flowering dates). Eaton calls it common. Specimens in Thoreau herbarium without date or locality. There are about five references to this in Thoreau's *Journal*. Voucher specimen in NEBC collected by Eaton on June 29, 1958 near the mouth of Spencer Brook in wet sunny alluvial soil recently exposed by flooding of Assabet River where abundant. Link to image.

Veronica scutellata (GM8: same: TH: same)

MARSH SPEEDWELL

Pratt does not list this. It is included without comment in an addendum of three loose pages associated with his manuscript after his death. Hosmer and Eaton say it is common. Specimens in Thoreau herbarium without date or locality. There are about 11 references to this in Thoreau's *Journal*. Emile F. Williams collected this on August 9, 1908 at Conantum (GH specimen). Eaton collected this on June 11, 1921 in a peat bog at G.[eorge] F. Root's swamp (BEDF specimen). Voucher specimen in GH collected by J.M. Greenman on May 30, 1896 on the banks of the Concord River. Link to image.

VERONICA SERPYLLIFOLIA (GM8: same; TH: same)

THYME-LEAVED SPEEDWELL

Pratt simply notes habitat. Hosmer says it is very common. Eaton calls it probably common. Specimens in Thoreau herbarium without date or locality. There are about 22 references to

this in Thoreau's *Journal*. Voucher specimen in NEBC collected by Eaton on July 26, 1958 in a shady lawn near Boiling Spring [not Thoreau's] at the north foot of Annursnack Hill on the property of H.H. Brooks. Link to image.

**Platanaceae** (GM8: same; TH: same)

Platanus occidentalis (GM8: same; TH: same)

**SYCAMORE** 

Pratt simply notes this as thinly scattered in woods and fields, roadsides, etc., as well as old shade trees near dwellings. Hosmer lists this without comment or flowering dates. Eaton says it is infrequent. Specimens in Thoreau herbarium collected on June 2 [no year] without locality, but can be associated with his *Journal* entry of June 2, 1857. There are about 56 references to this in Thoreau's *Journal*. Eaton notes scattered trees of this along Spencer Brook near Barrett's Mill Road north of site of Angier's Mill, and one tree of this on bank of Concord River below Flint's Bridge. On June 24, 1979 this author found it on the west side of a north-running swamp peninsula (ridge) in Estabrook Woods in the vicinity of Old Carlisle Road (Adiantum pedatum near tip of this peninsula). On November 1, 1979 this author found it along Thoreau Brook in the Estabrook Woods. Voucher specimen in NEBC collected by Eaton on August 11, 1957 at roadside in good alluvial soil on Barrett's Mill Road, tree 10 feet 4 inches in diameter [circumference] at breast height. Link to image.

Polemoniaceae (GM8: same; TH: same (in part))

PHLOX PANICULATA (GM8: same; TH: same)

FALL PHLOX

Pratt does not list this. Hosmer simply notes this at a dump. Eaton lists this only in an appendix as unlikely in Concord. No specimen in Thoreau herbarium or reference to this in his *Journal*. Voucher specimen in NEBC (and BEDF) collected by this author on August 29, 1982 at roadside along north side of Lexington Road near Lincoln line in shady thicket near the road, scattered plants. Link to image.

PHLOX SUBULATA (GM8: same; TH: same)

MOSS PHLOX

Pratt does not list this. Hosmer lists this only for an occurrence at the Acton Cemetery. Eaton lists this only in an appendix as unlikely in Concord. No specimen in Thoreau herbarium or reference to it in his *Journal*. Voucher specimen collected by this author on May 21, 1984 along Lexington Road. Specimen currently missing.

POLEMONIUM REPTANS var. REPTANS (GM8: same; TH: same)

Pratt and Hosmer do not list this. Eaton says it is rare. No specimen in Thoreau herbarium or reference to this in his *Journal*. Voucher specimens in NEBC & BEDF collected by Laurence E. Richardson on May 25, 1970 in swamp at Bow Street and Lowell Road. Link to image.

**Polygalaceae** (GM8: same; TH: same)

Polygala cruciata var. aquilonia (GM8: same; TH: Polygala cruciata)

Pratt says this is rare, noting it in swamp near Mr. Bigelow's and also at the extreme north of the town. Hosmer does not list this. Eaton lists this only in an appendix as probably in Concord. Specimens in Thoreau herbarium without date or locality. There are about five references to this in Thoreau's *Journal*. On August 27, 1851 he notes finding this in the

meadow behind Trillium Woods and railroad, commenting that it is rare and new to him. On September 13, 1851 while walking along the railroad causeway he writes in some length about its fragrance. On July 13, 1852 he refers to it in Brister's meadow as numerous and well out [blossoming]. On July 10, 1854 he mentions it at Hubbard's Close in flower for two or three days. Jarvis notes this on August 5, 1835 near E.[ast] school house. Thoreau's herbarium specimens in GH are accepted as the voucher for this (specimens at lower right). Link to image.

Polygala paucifolia (GM8: same; TH: same) FRINGED POLYGALA

Pratt says this is abundant in the south part of town. He refers to it as the most beautiful of the genus, and also notes a beautiful pure white variety which is rare, near the Harrington farm. Hosmer calls this common and also notes the white form at Harrington Swamp. Eaton says it is frequent, often abundant in large colonies. Specimens in Thoreau herbarium without date or locality, and specimens of white form collected at Ministerial Swamp without date. The latter can be associated with his Journal entry for May 23, 1853. There are about 13 references to this in Thoreau's Journal. On May 23, 1853 he records finding the white form in abundance by the path at Harrington's mud-hole [in Ministerial Swamp] and comments "Thus many flowers have their nun sisters, dressed in white." On May 9, 1979 this author found two of the white form just starting to flower near the Harrington mudhole. The next day this author found five plants there of the white form in flower. On May 14, 1982 this author found two patches of the white form (about 45 plants) in flower behind a residence on Ministerial Drive and photographed these on May 14, 1983 (NEBC specimen). On May 17, 1983 this author photographed in Sudbury, MA off Concord Road a rare violet form of this referred to by Hosmer as discovered in Sudbury, MA in 1893. Voucher specimen in NEBC collected by Eaton on May 25, 1931 (the white form) in low, mixed woods at edge of Harrington Swamp where abundant. Link to image.



Polygala paucifolia (Fringed Polygala, typical & white) Ministerial Swamp, Concord, MA May 20, 1982, by Ray Angelo

Polygala polygama (GM8: same, including var. obtusata; TH: same)
Pratt says this is rare, noting it found in small quantity only on a rocky hill south of
Bateman's Pond. Hosmer simply notes this on ledge east of Bateman's [Pond]. Eaton also
calls it rare. No specimen in Thoreau herbarium from Concord. There is only one reference to

this in Thoreau's *Journal* which is to occurrence on Cape Cod. Voucher specimen in NEBC collected by Hosmer without date or locale in Concord given. Link to image.

Polygala sanguinea (GM8: same; TH: same)

Pratt says this is common and notes a white form that abounds in the dry, rocky pastures north of Punkatasset Hill. Hosmer and Eaton also call this common. Specimens in Thoreau herbarium without date or locality, including the white form which can be associated with his *Journal* references of September 3, 1854 southwest of Hubbards Hill and July 31, 1856 in A. Wheeler's meadow. There are about 23 references to this in Thoreau's *Journal*. Jarvis notes this on July 17, 1834 at Dea.[con] Hubbard's. Edward Hoar collected this on August 22, 1857 along the road to Bedford (NEBC specimen). Elizabeth Weir collected (no date) the white form in a low path behind Tiletson's (NEBC specimen). Eaton collected this on August 20, 1957 in a moist ditch in Hudson's Meadow (BEDF specimen). Voucher specimen in GH the white form collected by Pratt in 1866 with no locale given, but certainly in a dry, rocky pasture north of Punkatasset Hill as noted in his manuscript. Link to image.

Polygala verticillata var. verticillata (GM8: same, including var. isocycla; TH: same)
Pratt says this is common in dry fields in the north part of town, which would include var. isocycla not distinguished in his time. Hosmer also calls this common, including var. isocycla. Eaton says this is frequent. Specimens in Thoreau herbarium without date or locality or not from Concord. There are about 10 references to this in Thoreau's *Journal*. Eaton collected this on September 9, 1934 in a dry, fallow field at Clamshell Bluff (BEDF specimen). Voucher specimen in NEBC collected by Edward Hoar on September 22 (no year) in Estabrook's pastures. Link to image.

# **Polygonaceae** (GM8: same; TH: same)

FAGOPYRUM ESCULENTUM (GM8: Fagopyrum sagittatum; TH: same) COMMON BUCKWHEAT

Pratt simply notes habitat. Hosmer says this is common. Eaton calls it occasional, rarely persistent after cultivation. Specimen in Thoreau herbarium without date or locality. There are about two references to this in Thoreau's *Journal*. Voucher specimen in NEBC collected by Edward Hoar on August 12, 1858 self-sown in hay field. Link to image.

FAGOPYRUM TATARICUM (GM8: same; TH: not treated in the manuals used by Thoreau) INDIA-WHEAT

Pratt, Hosmer and Eaton do not list this. No specimen in Thoreau herbarium. Voucher specimen in BEDF collected by Eaton on August 5, 1961 on middle dyke at Great Meadows where doubtless persistent from duck-trapping operations [according to Eaton, and identified by him as Fagopyrum esculentum]. Image not available.

Fallopia cilinodis (GM8: Polygonum cilinode; TH: Polygonum cilinode) FRINGED BINDWEED

Pratt and Hosmer do not list this. Eaton lists it in an appendix as unlikely in Concord. References in Thoreau's *Journal* are not to occurrence in Concord. Specimen in Thoreau herbarium not from Concord. Voucher specimen in NEBC collected by Walter Kitredge on his first day botanizing in Concord on July 6, 2019 on roadside at 668 Annursnack Hill Road and a large colony under white pines at the top of the hill at this address. Link to mage.

FALLOPIA CONVOLVULUS (GM8: Polygonum convolvulus, including var. subalatum; TH: Polygonum convolvulus)

#### **BLACK BINDWEED**

Pratt says this is a common weed in cultivated ground. Hosmer does not list this. Eaton calls it common. Specimen in Thoreau herbarium without date or locality. There are about two references to this in Thoreau's *Journal*. Voucher specimen in BEDF collected by Eaton on July 31, 1958, on a dry ledge slope along a wood road east from Strawberry Hill Road where thoroughly naturalized. Image not available.

FALLOPIA JAPONICA var. JAPONICA (GM8: Polygonum cuspidatum; TH: not treated in the manuals used by Thoreau)

## JAPANESE KNOTWEED

Pratt does not list this. Hosmer simply notes it at dump. Eaton says it is occasional. No specimen in Thoreau herbarium or reference to this in his *Journal*. This has become an abundant roadside weed since Eaton's time. Voucher specimen in NEBC collected by Cole Winstanley on September 24, 2015. Image not available.

Fallopia scandens (GM8: Polygonum scandens + Polygonum cristatum; TH: Polygonum dumetorum)

### CLIMBING FALSE BUCKWHEAT

Pratt simply notes habitat. Hosmer says this is common. Eaton calls it frequent. Specimen in Thoreau herbarium without date or locality. There are about 10 references to this in Thoreau's *Journal*. Eaton collected this on August 21, 1957 in a thicket on the west bank of G.[eorge] Root's Pond [Crosby Pond] (NEBC specimen), and on September 15, 1957 in a moist thicket on a brook meadow [most likely Jenny Dugan Brook] at the Concord Country Club (BEDF specimen). K. Shea and B. Blair collected this on August 16, 1977 in thickets surrounding a deep marsh area in the Great Meadows National Wildlife Refuge (MASS specimen). Voucher specimen in NEBC collected by Eaton on September 5, 1957 in a low thicket on the south bank of Walden Pond near the shore. Link to image.

Persicaria amphibia (GM8: Polygonum amphibium, including var. stipulaceum + Polygonum coccineum; TH: Polygonum amphibium, including var. aquaticum & var. terrestre)
WATER SMARTWEED

Pratt simply notes habitat. Hosmer also simply notes habitat (as Polygonum muhlenbergii). Eaton calls it frequent, occasionally abundant. Specimens in Thoreau herbarium without date or locality. There are about 22 references to this in Thoreau's *Journal*. Eaton collected this on July 21, 1929 in the Sudbury River, leaves floating, abundant above Egg Rock (NEBC specimen). Voucher specimen in NEBC collected by Eaton on August 10, 1920 on riverbank rooting in mud at Wheeler's Meadow by the Sudbury River. Link to image.

Persicaria arifolia (GM8: Polygonum arifolium var. pubescens; TH: Polygonum arifolium) HALBERD-LEAVED TEARTHUMB

Pratt says this is common. Hosmer simply notes this at the Millrace [Thoreau mill site in Estabrook Woods] and at Conantum. Eaton calls it uncommon. Specimens in Thoreau herbarium without date or locality. There are about six references to this in Thoreau's *Journal*. On June 24, 1857 he notes this is very common at the Owl Nest Swamp. On August 29, 1857 he refers to it in blossom at Owl Nest Swamp. These two references are his only ones to occurrence of this in Concord. Jarvis notes this on July 30, 1834 in woods N.[orth] of E. Stevens. Eaton collected this on July 2, 1956 in swampy woods on the north side of the Cambridge Turnpike opposite G.[eorge] Root's ice pond [Crosby Pond] (BEDF specimen). Voucher specimen in NEBC collected by Edward Hoar on September 8, 1857 in Oak Meadow [now Mink Pond in the Estabrook Woods]. Link to image.

Persicaria careyi (GM8: Polygonum careyi; TH: Polygonum careyi)

Pratt and Hosmer do not list this. Eaton says it is frequent. Specimens in Thoreau herbarium without date or locality. There are about seven references to this in Thoreau's *Journal*. On August 24, 1852 he notes it by the red house on the [Cambridge] Turnpike. On September 2, 1859 he mentions it at Ledum Swamp. Eaton collected this on September 15, 1928 on the shore of Goose Pond on his woodlot (BEDF specimen). Voucher specimen in NEBC collected by Edward Hoar on September 1, 1858 on riverbank. Link to image.

PERSICARIA HYDROPIPER (GM8: Polygonum hydropiper; TH: Polygonum hydropiper) COMMON SMARTWEED

Pratt says his is a common weed in moist ground. Hosmer simply notes habitat. Eaton calls it common. Specimens in Thoreau herbarium without date or locality. There are about four references to this in Thoreau's *Journal*. Voucher specimen in NEBC collected by Edward Hoar on September 1, 1858 along a roadside [no locale]. Link to image.

Persicaria hydropiperoides (GM8: Polygonum hydropiperoides; TH: Polygonum hydropiperoides) SWAMP SMARTWEED

Pratt says this is common. Hosmer simply notes habitat. Eaton calls it rather common. Specimens in Thoreau herbarium without date collected at French's Rock. There are about 53 references to this in Thoreau's *Journal*. Eaton collected this on August 7, 1957 in the Spencer Brook below the old Worthley Farm [1227 Lowell Road] (BEDF specimen). Laurence E. Richardson collected this on July 28, 1970 at Macone Pond (BEDF specimen). Voucher specimen in NEBC collected by Edward Hoar on August 19, 1858 in shallow water of Concord River. Link to image.

Persicaria lapathifolia (GM8: Polygonum lapathifolium + Polygonum scabrum; TH: Polygonum nodosum var. incarnatum - misapplied)

### PALE SMARTWEED

Pratt does not list this. Hosmer simply notes it at L.[owell] Railroad cut. Eaton says this is common, often weedy. Specimens in Thoreau herbarium collected on August 14, 1856 at the potato field of Horatio C. Watts (1827-1899) that was at the Cambridge Turnpike (according to a lengthy unpublished *Journal* entry for this date in which he considers Polygonum lapathifolia as a possibilty). Those specimens have been identified by Walter Kittredge as Persicaria lapathifolia. Also two specimens without date or locality labeled by Thoreau as Polygonum persicaria have been identified by Walter Kittredge as Persicaria lapathifolia. No reference to this in his published *Journal*. Eaton collected this on July 10, 1957 in moist gravel of middle dyke at the Great Meadows National Wildlife Refuge (BEDF specimen). Voucher specimen in GH collected by David Potter on July 15, 1925 with no particular locale within Concord given. Link to image.

PERSICARIA MACULOSA (GM8: Polygonum persicaria; TH: Polygonum persicaria) LADY'S-THUMB

Pratt says this is a common weed in low ground. Hosmer calls it very common. Eaton says it is a ubiquitous weed. Specimens in Thoreau herbarium without date or locality. There are about 11 references to this in Thoreau's *Journal*. Voucher specimens in Thoreau herbarium in GH. <u>Link to image</u>. Voucher specimen of definite wild occurrence is needed.

PERSICARIA ORIENTALIS (GM8: Polygonum orientale; TH: Polygonum orientale) KISS-ME-OVER-THE-GARDEN-GATE

Pratt says this is often cultivated, but occasionally found spontaneous. He relates that on plowing an old pasture 20 years ago (a pasture that had not been plowed for more than 30 years before that) this plant came up in considerable numbers. The field having been plowed twice since then this plant reappeared each time. He also relates that on another part of the farm, this came in on mud from an old clay pit that was at least 100 years old. Hosmer

simply notes this at dumps and near Saw Mill Brook. Eaton calls it rare. Specimens in Thoreau herbarium without date or locality. There are about six references to this in Thoreau's Journal. On September 14, 1852 he notes it in E. Hosmer's grounds. On August 16, 1853 he refers to it by the Turnpike Bridge. Voucher specimen in NEBC collected by Eaton on October 10, 1957 in rich humus at dump at Sleepy Hollow Cemetery. Link to image.

Persicaria pensylvanica (GM8: Polygonum pensylvanicum, including var. laevigatum; TH: Polygonum pennsylvanicum)

**PINKWEED** 

Pratt simply notes that he has found it on the shore of White Pond. Hosmer just refers to it at Keefe's. Eaton says it is a common and abundant weed. Specimens in Thoreau herbarium not from Concord. There are about four references to this in Thoreau's *Journal*. On September 19, 1856 he remarks his surprise at first finding this in Concord abundant by the roadside near the bank [apparently financial, not river, judging from a later reference]. Jarvis notes this on August 7, 1836 near S. Buttrick's. Voucher specimen in NEBC collected by Edward Hoar on September 8, 1858 [no particular locale within Concord given]. Link to image.

Persicaria punctata (GM8: Polygonum punctatum, including var. leptostachyum; TH: Polygonum acre)

#### DOTTED SMARTWEED

Pratt and Hosmer simply note habitat. Eaton says this is common. Specimens in Thoreau herbarium without date or locality identified by Thoreau as Polygonum hydropiperoides have been identified as Persicaria punctata by Walter Kittredge. No reference to this in his *Journal*. Ira L. Wiggins collected this on October 3, 1937 at the upper end of Fairhaven Pond about 2 miles "above" of Concord on the Sudbury River (herbarium of Utah State University). Eaton collected this on July 16, 1957 in moist gravel on the middle dyke at the Great Meadows National Wildlife Refuge (BEDF specimen). Voucher specimen in NEBC collected by Eaton on August 14, 1957 in cold sphagnum bog under Vaccinium corymbosum in the sphagnum bog north of White Pond. Link to image.

Persicaria robustior (GM8: Polygonum robustius; TH: not scientifically described until 1894, would have been included in Persicaria punctata)

Pratt and Hosmer do not list this. Eaton says it is uncommon. No specimen in Thoreau herbarium or reference to this in Thoreau's *Journal*, although the reference to a large spotted white polygonum by the Sudbury River on August 5, 1852 is likely to this species. Eaton collected this on August 10, 1920 rooting in mud on the riverbank of the Sudbury River near the west end of the Lowell railroad bridge (BEDF specimen). Voucher specimen in NEBC collected by Emile F. Williams on September 21, 1902 with no particular locale within Concord given. Link to image.

Persicaria sagittata (GM8: Polygonum sagittatum; TH: Polygonum sagittatum)

Pratt says this is common in wet grounds. Hosmer and Eaton call it common. Specimens in Thoreau herbarium without date or locality. There are about eight references to this in Thoreau's *Journal*. Eaton collected this on September 10, 1956 in moist, peaty gravel at the Great Meadows National Wildlife Refuge, and on July 25, 1961 in the bog south of Walden Pond (BEDF specimens). Voucher specimen in NEBC collected by Edward Hoar in September 1857 in wet land near the Concord Cliffs [Fairhaven Cliffs]. Link to image.

# PERSICARIA VIRGINIANA (GM8: Tovara virginiana; TH: Polygonum virginianum)

Pratt says this is rare, noting it west of Punkatasset Hill, but his copy of Gray's *Manual of Botany* indicates it as introduced from Dorset, VT. Hosmer simply refers to it at Nine-acrecorner. Eaton lists this only in an appendix as unlikely in Concord. No specimen in Thoreau herbarium from Concord. There are about three references to this in Thoreau's *Journal*, none of which are to occurrence in Concord. Cherrie Corey reported this (2021) to be uncommon, seen in a number of places. Voucher specimen in NEBC (and BEDF) collected by this author on September 5, 1983 on a slope above Lexington Road near Chestnut Street in wooded waste area, about one to two dozen plants. Link to image.

Polygonum articulatum (GM8: Polygonella articulata; TH: same) NORTHERN JOINTWEED

Pratt says it is abundant in dry soil, noting it near the Framingham and Lowell Railroad crossing and several places in the north part of town. Hosmer simply notes it near John Brown 2<sup>nd</sup> and Old Marlborough Road. Eaton calls it uncommon. Specimen in Thoreau herbarium without date or locality. There are about nine references to this in Thoreau's *Journal.* One of these references is on September 26, 1852 when he finds it in flower at Jenny Dugan Desert. This author found it in flower at the same location on September 11, 1982 which was near the former Lowell Railroad tracks. In unpublished notes Eaton states that there are several stations in Concord and that it is abundant along the "Lowell" Railroad tracks. Eaton collected this on September 15, 1928 near the [Old] Rifle Range in West Concord (BEDF specimen). Voucher specimen in NEBC collected by Edward Hoar in September 1857 at the Concord Cliffs [Fairhaven Cliffs] Link to image.

POLYGONUM AVICULARE subsp. AVICULARE (GM8: same, including var. vegetum; TH: same)

## **COMMON KNOTWEED**

Pratt says this is a common weed. Hosmer calls it very common. Eaton says it is a common, ubiquitous weed. Specimens in Thoreau herbarium without date or locality. There are about 13 references to this in Thoreau's *Journal*. Voucher specimen in NEBC collected by Eaton on July 17, 1957 along a dry, sandy roadside [no particular locale within Concord given]. <u>Link to image</u>.

POLYGONUM AVICULARE subsp. NEGLECTUM (GM8: included in typical Polygonum aviculare; TH: not distinguished in the manuals used by Thoreau, would have been included in typical Polygonum aviculare)

Pratt, Hosmer and Eaton do not list this. No specimen in Thoreau herbarium or reference to it in his *Journal*. Voucher specimen in NEBC determined as this by Mihai Costea in 2003 collected by Eaton (as Polygonum ramosissimum) on August 28, 1967 erect in tall roadside vegetation [no locale within Concord given]. <u>Link to image</u>.

Polygonum tenue (GM8: same; TH: same)

### PLEAT-LEAVED KNOTWEED

Pratt and Hosmer simply note this at Conantum. Eaton says it is uncommon. Specimens in Thoreau herbarium without date or locality. There are about five references to this in Thoreau's *Journal*. On August 31, 1852 he notes this at Tupelo Cliff [Bittern Cliff/Martha's Point in Conantum]. On August 3, 1856 he finds it recently in flower at Bittern Cliff. On August 24, 1856 he finds it abundant in bloom on the side of Money-Digger's Hill, especially at south base near an apple tree. Jarvis collected this on August 17, 1834 on "F. Jarvis land over the hill" (MASS specimen). Voucher in NEBC collected by Hoar in September 1858 (no particular locale within Concord given). Link to image.

RUMEX ACETOSELLA (GM8: same; TH: same)

SHEEP SORREL

Pratt says this is an abundant weed in all fields. Hosmer calls this very common. Eaton says it is a ubiquitous weed. Specimens in Thoreau herbarium without date or locality. There are about 52 references to this in Thoreau's *Journal*. Voucher specimen (lowermost on sheet) in Thoreau herbarium in GH. <u>Link to image</u>. Voucher for wild occurrence is needed.

Rumex brittanica (GM8: Rumex orbiculatus; TH: Rumex hydrolapathum var. americanum) WATER DOCK

Pratt and Hosmer simply note habitat. Eaton says it is frequent. Specimens in Thoreau herbarium without date or locality. There are about two references to this in Thoreau's *Journal*. On August 22, 1852 he is uncertain whether he has found this by Jenny's Brook. On July 30, 1853 he supposes he has found this at Nut Meadow Brook [same as Jenny's Brook]. Voucher specimen in NEBC collected by Eaton on July 18, 1957 in marshy ground at the edge of a ditch at Great Meadows National Wildlife Refuge. Link to image.

RUMEX CRISPUS (GM8: same; TH: same)

YELLOW DOCK

Pratt and Eaton say this is common. Hosmer calls it very common. Specimens in Thoreau herbarium without date or locality. There are about eight references to this in Thoreau's *Journal*. K. Shea and E. Blair collected this on August 16, 1977 in thickets surrounding a deep marsh area at the Great Meadows National Wildlife Refuge (MASS specimen). Voucher specimen in NEBC collected by Edward Hoar on July 14, 1889 in field behind Prichard's. Link to image.

RUMEX OBTUSIFOLIUS (GM8: same; TH: same)

BITTER DOCK

Pratt says this is a rather common weed. Hosmer and Eaton call it common. Specimens in Thoreau herbarium without date or locality. There are about six references to this in Thoreau's *Journal*. Voucher specimen in Thoreau herbarium in GH. <u>Link to image</u>.

## **Portulacaceae** (GM8: same; TH: same)

CLAYTONIA CAROLINIANA (GM8: same; TH: same)

**BROAD-LEAVED SPRING-BEAUTY** 

Pratt says this was introduced from Vermont, presumably by him. Hosmer simply notes this from Pratt's Swamp. Eaton says it is rare, noting its likely introduced status. No specimen in Thoreau herbarium or reference to this in his *Journal*. For unknown reasons Hosmer did not include this in his list of Pratt introductions published in *Rhodora* in 1899. But the evidence points to Pratt introducing it. Voucher specimen in NEBC collected by Hosmer with no date or particular locale within Concord given. <u>Link to image</u>.

CLAYTONIA VIRGINICA (GM8: same; TH: same)

EASTERN SPRING-BEAUTY

Pratt says he introduced this from Indiana. Hosmer simply notes this at Mr. Pratt's. Eaton does not list this. No specimen in Thoreau herbarium or reference to this in his *Journal*. Hosmer's list of Pratt introductions prepared for *Rhodora* in 1899 lists this as still persisting and spreading somewhat. Laurence E. Richardson collected this on May 3, 1960 along Monument Street, presumably escaped and possibly near the Pratt residence (BEDF specimen). This author collected it on April 23, 1983 near a horse watering-hole beside a fence at the edge of a pasture near rich, moist woods behind the former Pratt residence and near his Spring, at least 100 plants (BEDF specimen). Later landscaping operations by the owner in the 1980s destroyed much or most of this substantial colony. Voucher specimen in

NEBC collected by this author and Dorian Kottler on April 8, 1988 at the corner of Nashawtuc Road and Main Street, a roadside escape of about 50 plants in blossom. <u>Link to image</u>.

PORTULACA OLERACEA (GM8: same; TH: same)

**COMMON PURSLANE** 

Pratt simply notes habitat. Hosmer says it is very common. Eaton calls it common, often abundant. Specimen in Thoreau herbarium without date or locality. There are about 11 references to this in Thoreau's *Journal*. Voucher specimen in NEBC collected by Eaton on July 25, 1957 in cultivated soil. Link to image. A voucher of wild occurrence is needed.

**Primulaceae** (GM8: same; TH: same)

LYSIMACHIA ARVENSIS (GM8: Anagallis arvensis; TH: Anagallis arvensis) SCARLET PIMPERNEL

Pratt does not list this. Hosmer says it is common. Eaton calls it occasional. No specimen in Thoreau herbarium from Concord. There are two references to this in Thoreau's *Journal*, neither of which is to occurrence in Concord. Voucher specimen in NEBC collected by Edward Hoar on July 15, 1891 as a garden weed. <u>Link to image</u>. A voucher of wild occurrence is needed.

Lysimachia borealis (GM8: Trientalis borealis; TH: Trientalis americana) STARFLOWER

Pratt, Hosmer and Eaton say this is common. Specimens in Thoreau herbarium without date or locality, and a locality not from Concord. There are about 19 references to this in Thoreau's *Journal*. Jarvis notes this on June 7, 1835 near [Cambridge] turnpike. Eaton collected this on June 8, 1930 on his wood lot near Goose Pond (BEDF specimen). Voucher specimen in NEBC collected by Edward Hoar on May 24, 1858 with no particular locale within Concord given. Link to image.

Lysimachia ciliata (GM8: same; TH: same)

FRINGED LOOSESTRIFE

Pratt does not list this. It is included (under the name Steironema ciliatum, a name in common use only after Pratt's death) without comment in an addendum of three loose pages associated with his manuscript after his death. Hosmer says this is common [in the Concord vicinity]. Eaton lists this only in an appendix as unlikely in Concord. Specimens in Thoreau herbarium without date or locality, and a locality not from Concord. There are about six references to this in Thoreau's *Journal*. On July 22, 1852 he remarks that he believes the Lysimachia by the Corner Road to be this rather than Lysimachia lanceolata [Lysimachia hybrida]. On July 24, 1853 he notes it by the causeway [at Hubbard's Bridge]. On June 21, 1983 this author found it in low woods with Actaea rubra in the "Silver Mine" area near the Sudbury town line west of railroad tracks. In 2021 Cherrie Corey reported this to be infrequent. Voucher specimens in NEBC and BEDF collected by this author on July 21, 1982 at Pratt's Brook (southwest of Punkatasset Hill), a colony of about 10-20 plants beside the brook in rich woods. Link to image.

Lysimachia hybrida (GM8: same; TH: same, Lysimachia lanceolata var. hybrida) LOWLAND LOOSESTRIFE

Pratt, Hosmer and Eaton say this is common. Specimens in Thoreau herbarium without date or locality. There are about 13 references to this in Thoreau's *Journal*. Walter Deane collected this on July 4, 1887 at Great Meadows (MASS specimen). Eaton collected this on June 29, 1921 in Wheeler's Meadow east of Nashawtuc Hill (BEDF specimen). Laurence E. Richardson collected this on July 10, 1964 on an Assabet River bank (BEDF specimen).

Voucher specimen in NEBC collected by Edward Hoar on July 21, 1858 in a thicket near a river bank. Link to image.

LYSIMACHIA NUMMULARIA (GM8: same; TH: not treated in the manuals used by Thoreau) MONEYWORT

Pratt does not list this. Hosmer simply notes it escaped near Bank. Eaton says it is occasional. No specimen in Thoreau herbarium or reference to this in his *Journal*. Hoar collectd this in August 1890 at the foot of his garden [near the Sudbury River] (NEBC specimen). In 2016 Cherrie Corey reported that this grew in the flood plain woods along the Concord River from Liberty St. to the town of Bedford. At Great Meadows she noted it formed nearly a solid carpet under the canopy all along the river and can be found in lowlands at Ball's Hill near the river. Voucher specimen in NEBC collected by Cole Winstanley on June 11, 2016 along Liberty Street. Image not available.

Lysimachia quadrifolia (GM8: same; TH: same)

WHORLED LOOSESTRIFE

Pratt, Hosmer and Eaton say this is common. Specimens in Thoreau herbarium without date or locality. There are about 14 references to this in Thoreau's *Journal*. Eaton collected this on July 4, 1920 in a meadow along Jenny Dugan Brook (BEDF specimen). Voucher specimen in NEBC collected by Edward Hoar in June or July of 1857 with no particular locale within Concord given. Link to image.

Lysimachia terrestris (GM8: same; TH: Lysimachia stricta, Lysimachia racemosa) SWAMP CANDLES

Pratt, Hosmer and Eaton say this is common. Jarvis notes this is abundant in Concord on a herbarium specimen at MASS. Specimen in Thoreau herbarium without date or locality. There are about 17 references to this in Thoreau's *Journal*. Laurence E. Richardson collected this (misidentified as Lysimachia x producta) on July 23, 1961 at the Assabet River (BEDF specimen). Voucher specimen in NEBC collected by Edward Hoar on August 25, 1857 near North Branch [Assabet River]. Link to image.

Lysimachia thyrsiflora (GM8: same; TH: same, Naumbergia thyrsiflora) TUFTED LOOSESTRIFE

Pratt says this is rare, noting it in a cold swamp south of Bateman's Pond. Hosmer simply lists one site not in Concord. Eaton calls it uncommon. Specimens in Thoreau herbarium without date or locality. There are about four references to this in Thoreau's *Journal*. On June 16, 1852 he notes it at the Depot Field Brook. However, the 1852 reference must have been an error since on June 9, 1857 he records finding it in sphagnum and water at Calla Swamp stating that he had not seen it growing before. On this date he also mentions that Channing had once brought one to him from Hubbard's Great Meadow. He finds it on June 24, 1857 in prime flowering in the Owl Nest Swamp with the Calla palustris. This author only saw it at the site in Stow where Hosmer mentions it. Walter J. Brain collected this on June 10, 1990 in "Calla Swamp" in the Estabrook Woods (BEDF specimen). Cherrie Corey found a colony of about 70 plants of this growing in a cool shady pocket up against the beginning of the cross-dike trail and photographed them in flower on June 2, 2009 and where they continue to thrive (2018). Voucher specimen in NEBC collected by Eaton on May 31, 1959 at the muddy edge of a transient pool at the edge of a Sudbury river meadow on the west side of Fair Haven Bay opposite the island. Link to image.

# Ranunculaceae (GM8: same; TH: same)

Actaea pachypoda (GM8: same; TH: Actaea spicata var. alba, Actaea alba) WHITE BANEBERRY

Pratt says this is rather common. Hosmer simply notes this near the Lime Kiln [in the Estabrook Woods and at Conantum. Eaton calls this rare, known only at two stations. Specimens in Thoreau herbarium without date or locality. There are about 16 references to this in Thoreau's Journal. On August 31, 1851 he notes this in a swamp at Conantum that he christens "Cohush Swamp" after a common name for this plant, and also listing other unusual plants in this particular swamp, including Collinsonia, Tilia americana, and Fraxinus nigra. On September 24, 1856 he mentions it at Saw Mill Brook. This latter location is probably in Lincoln, MA. On September 21, 1857 he refers to it at Corallorhiza Rocks which is in an area south of Bateman's Pond. Eaton collected this on September 14. 1958 in low, rich woods near Martha's Point (BEDF specimen). Laurence E. Richardson collected this on June 8, 1960 at Annursnack Hill (BEDF specimen). This author found it in at least four locations in Concord: at the lime quarries in the Estabrook Woods, north of Hutchins Pond in the Estabrook Woods, on the northeast side of Annursnack Hill and at Conantum. Cherrie Corey found this in 2014 in the upper Spencer Brook valley (Bemis Cliffs). Cole Winstanley also reported finding two colonies about 100 meters apart on an old house lot never built upon growing amongst invasive plants west of Westford Road and east of Spencer Brook in August 2015. On September 13, 2015 Cole Winstanley found some of this on two drumlins and an outcrop in woods west of White Pond near the Sudbury line and west of the railroad tracks. On June 26, 2016 Cole Winstanley found perhaps over 125 plants of this in the Estabrook Woods in the area circumscribed by the lime kiln and auarries, the eastern shore of Bateman's Pond, the Estabrook House site, to the fen where he found Carex lacustris to the swamp peninsula where this author found Asclepias exaltata. Voucher specimen in NEBC collected by Eaton on May 30, 1956 in leaf mold on the floor of a shallow lime quarry in the Estabrook Woods. Link to image.

Actaea rubra (GM8: same; TH: Actaea spicata var. rubra, Actaea rubra)
RED BANEBERRY

Pratt says this is rare, noting it only on the south side of Punkatasset Hill. Hosmer simply refers to it at one site in Sudbury. Eaton calls it rare, not recently collected. No specimen in Thoreau herbarium. There are about eight references to this in Thoreau's *Journal*. On June 7. 1857 while with Pratt he is shown this (one plant in flower, the rest going to seed) at the cross-wall below N.[ehemiah] Hunt's [Jr.'s (1792-1845) house on Punkatasset Hill] some way from the road [Monument Street] -- clearly the site noted by Pratt in his manuscript. On June 14, 1980 this author found it on the Concord line with Sudbury about 1/8 mile west of the railroad tracks. This would be in the vicinity of the Sudbury site noted by Hosmer. The next day on June 15, 1980 this author discovered the site known to Pratt and Thoreau in woodland hollows with Matteuccia struthiopteris south of Punkatasset Hill not far from the Concord River. This author photographed it in flower at this location on May 10, 1981, and in fruit on June 30, 1981. On June 21, 1981 this author collected some of this in some woods behind Pratt's former residence west of Punkatasset Hill (BEDF specimen). These were likely introduced by Pratt or his son, Frederick, who operated a nursery in that area. These particular plants were most likely destroyed by later extensive landscaping operations of the land owner. On August 25, 1983 this author and one or two others transplanted some of the plants below Punkatasset Hill just a bit further to the south in those woods to prevent their obliteration by imminent wood clearing to extend a cultivated field. In June 2016 Cole Winstanley apparently relocated the station this author found on

June 14, 1980 in the area bordered by the Sudbury town Line, old Pickard Road and railroad tracks. Voucher specimen in MASS collected by Emiline E. Barrett on May 21, 1834 near Nathan Barrett's [Pratt's site for it near Punkatasset Hill]. Link to image.

Anemone quinquefolia var. quinquefolia (GM8: same; TH: Anemone nemorosa var. quinquefolia)

WOOD ANEMONE

Pratt says this is abundant in woods and fields. Hosmer calls it common. Eaton says it is common, often abundant. Specimens in Thoreau herbarium without date or locality. There are about 31 references to this in Thoreau's *Journal*. Eaton collected this on May 11, 1930 in open oak woods on his woodlot near Goose Pond (BEDF specimen). Robert A. Bye collected this on May 7, 1972 along Waterthrush Brook in the Estabrook Woods [brook east of Mink Pond] (BEDF specimen). Cherrie Corey (2014) reported this still to be one of the most abundant early spring woodland flowers found at Great Meadows, throughout Estabrook Woods, the Town Forest and Wright Woods, etc. Voucher specimen in NEBC collected by Edward Hoar on May 25, 1858 with no particular locale within Concord given. Link to image.

Anemone virginiana var. virginiana (GM8: same; TH: same) TALL ANEMONE

Pratt says this is common, especially in the dry bushy pastures in the north part of town. Hosmer calls it common. Eaton says it is uncommon, but widespread. Specimens in Thoreau herbarium without date or locality. There are about nine references to this in Thoreau's *Journal*. Eaton collected this on August 17, 1957 along a dryish wood-road in the Estabrook Woods (BEDF specimen). Colleen M. Handel collected this on June 19, 1972 at the limestone quarries in the Estabrook Woods (BEDF specimen). Voucher specimen in NEBC collected by Eaton on August 6, 1958 in rocky open woods near dioritic outcroppings at Martha's Point. Link to image.

Aquilegia canadensis (GM8: same; TH: same)

WILD COLUMBINE

Pratt simply notes habitat. Hosmer says it is common. Eaton calls it infrequent. Specimens in Thoreau herbarium without date or locality, but the specimen of the yellow form was most likely collected on the date he first found it on May 12, 1855 under Lee's Cliff. There are about 44 references to this in Thoreau's *Journal*. Jarvis notes this near Captain Hunt's in 1834. Walter Deane and others collected this at Martha's Point on July 17, 1886 (NEBC specimen). Laurence Richardson collected this on May 8, 1960 along Lowell Road about 1 mile [from town] (BEDF specimen). This author saw it at Martha's Point and other places. In May 2016 Cole Winstanley reported this to be common on the cliffs at Bateman's Pond and on Martha's Point and a few plants in the talus below the Bemis Cliffs. On June 25, 2016 Cole Winstanley found some of this at Thoreau's Sugar Maple Grove. Voucher specimen in NEBC collected by Eaton on May 30, 1956 at the lime quarries in Estabrook Woods. Image not available.

AQUILEGIA VULGARIS (GM8: same; TH: same)
GARDEN COLUMBINE

Pratt does not list this. Hosmer simply notes it in Warnerville [West Concord]. Eaton says it is occasional. No specimen in Thoreau herbarium. There is one reference to it in his *Journal*. On June 14, 1858 he notes it by a roadside fifty rods below James Wright's. Voucher specimen in NEBC collected by Hosmer without date or particular locale within Concord given. Link to image.

Caltha palustris (GM8: same; TH: same)

MARSH MARIGOLD

Pratt says this is common in swampy land and borders of brooks. Hosmer and Eaton also call it common. Specimens in Thoreau herbarium without date or locality. There are about 69 references to this in Thoreau's *Journal*. Jarvis notes this at the "[Cambridge] Turnpike" in April 1834. Edward Hoar collected this on July 12, 1887 at the Second Division brook of Thoreau (NEBC specimen). Voucher specimen in GH collected by Frederick Wilder on April 24, 1931 on moist ground at the Cambridge Turnpike. Link to image.

Clematis virginiana (GM8: same; TH: same)

VIRGIN'S-BOWER

Pratt and Hosmer say this is common. Eaton calls it uncommon. Specimens in Thoreau herbarium without date or locality. There are about 20 references to this in Thoreau's *Journal.* Eaton collected this on July 10 1958 in a swampy thicket near the edge of the upper pond [Musketaquid Pond] on Second Division Brook, and on July 24, 1958 in a swampy glade of the Chamberlin Woods east of the old Worthley farm [1227 Lowell Road] (both NEBC specimens). Anne Richardson collected this on August 15, 1958 in low ground at the edge of a thicket near the mouth of Spencer Brook on the right bank (NEBC specimen). On September 7, 1980 this author collected it with James W. Hinds and Mary Walker east of Monsen Road (BEDF specimen). Cherrie Corey reported (2014) this at Shadyside Lane, near Sudbury Road in a thicket across from the Willow Guzzle parking area, and at Annursnack Hill. Cole Winstanley photographed this in 2014 near Spencer Brook. On September 2, 2014 Cole Winstanley found this in Estabrook Woods. In Aug. 2015 Cole Winstanley found this near a sink-hole about halfway between Newbury Field and Strawberry Hill Road on a slope down to a small wooded pond. Voucher specimen in GH collected by David Potter and C.M. Pomerat on July 20, 1930 along the roadside of the Cambridge Turnpike. Link to image.

Coptis trifolia (GM8: Coptis groenlandica; TH: same)
GOLDTHREAD

Pratt only notes habitat, adding that it is especially in the northerly part of town. Hosmer and Eaton say it is common. Specimens in Thoreau herbarium without date or locality. There are about 17 references to this in Thoreau's *Journal*. Jarvis notes it in Caesar's woods. Robert A. Bye collected this on May 7, 1972 along Waterthrush Brook in the Estabrook Woods [east of Mink Pond] (BEDF specimen). Voucher specimen in NEBC collected by C.E. Perkins on October 1, 1880 in a piece of woods on the south side of F.R.R. [Fitchburg Railroad] at the 21<sup>st</sup> mile post [from North Station, Boston]. <u>Link to image</u>.

FICARIA VERNA (GM8: Ranunculus ficaria; TH: not treated in the manuals used by Thoreau) LESSER CELANDINE

Pratt, Hosmer and Eaton do not list this. No specimen in Thoreau herbarium or reference to this in his *Journal*. Cherrie Corey (2014) reported finding this lining the wet edges of a trail (Emerson-Thoreau Amble) that leads to the path into the back yard of the Ralph Waldo Emerson residence. Lisa Standley collected this on April 28, 2018 in floodplain forest southwest of the main dyke at Great Meadows National Wildlife Refuge (NEBC specimen). In 2021 Cherrie Corey reported this now to be common, having spread much since flooding in 2010. Voucher specimens in NEBC and BEDF collected by this author with Sarah Chapin, James and Patricia Hinds on May 1, 1983 abundant in an open, grassy field between the Robb (Pratt) house and the adjacent residence to the north on Monument Street. Link to image.

Hepatica americana (GM8: same; TH: Hepatica triloba) ROUND-LEAVED HEPATICA

Pratt says this is rare, finding it only in one place in Walden Woods. Hosmer simply notes this near A.F. Calef's [site referred to by Pratt]. Eaton also calls it rare, at a single station [Pratt's site] where scarce. Specimens in Thoreau herbarium without date or locality, or not from Concord. There are about five references to this in Thoreau's *Journal*, none of which are to occurrence in Concord. On October 14, 1976 this author relocated the site known to Pratt, Hosmer and Eaton on the north-facing bank of a sink-hole not far from Route 2 and north of it, about 50 plants at that time. This the plants have not been relocated at this site in recent years (Cherrie Corey, 2014). Voucher specimen in NEBC collected by Eaton on April 23, 1922 on the shaded slope of a glacial ridge under scrub oak and chestnut on Eaton's woodlot west of G.[eorge F.] Root's farm [Intervale Farm on Sandy Pond Road] where scarce [the only known site in Concord]. Link to image.

Ranunculus abortivus (GM8: same; TH: same)

KIDNEYLEAF CROWFOOT

Pratt simply notes this at roadside on Punkatasset Hill. Hosmer says it is common. Eaton calls it frequent. No specimen in Thoreau herbarium. There are about nine references to this in Thoreau's *Journal*. Voucher specimen in NEBC collected by Eaton on May 21, 1961 in a wet, ungrazed pasture at the edge of a Sudbury River meadow north of Jenny Dugan Brook. Link to image.

RANUNCULUS ACRIS (GM8: same; TH: same)

TALL BUTTERCUP

Pratt says this is abundant in moist fields. Hosmer calls it very common. Eaton says it is abundant. Specimens in Thoreau herbarium without date or locality. There are about 23 references to this in Thoreau's *Journal*. Voucher specimen in NEBC collected by Edward Hoar on June 7, 1858 with no particular locale within Concord given. Link to image.

Ranunculus aquatilis var. diffusus (GM8: Ranunculus trichophyllus; TH: Ranunculus aquatilis, including var. divaricatus and var. fluviatilis)

WHITE WATER CROWFOOT

Pratt says this is common in ponds and slow streams. Hosmer simply notes this in the Mill Brook, Second Division Brook, and Dam Meadow Brook. Eaton calls this uncommon. Specimens in Thoreau herbarium without date or locality. There are about three references to this in Thoreau's *Journal*. On August 4, 1854 he refers to it as a new plant [for him in Concord] finding it on the surface of Hosmer's ditch on the west end by the [Cambridge] Turnpike. This was the only site he records it from in Concord. Jarvis notes this as Ranunculus fluviatilis at riverside near B.[enjamin] Hallowell's [Thoreau's Hollowell Place by the Sudbury River]. Voucher specimen in NEBC collected by Edward Hoar on July 12, 1887 in Second Division Brook near Harrington's. Link to image.

RANUNCULUS BULBOSUS (GM8: same, including var. valdepubens; TH: same) BULBOUS BUTTERCUP

Pratt says this is very abundant in dry pastures. Hosmer calls it very common. Eaton says it is frequent. Specimen in Thoreau herbarium without date or locality. There are about 20 references to this in Thoreau's *Journal*. Jarvis notes this on June 7, 1835 in Merrick's pasture [which included today's Old Calf Pasture]. Eaton collected this on June 6, 1961 in thin, rocky soil at Martha's Point where abundant (NEBC and BEDF specimens). Voucher specimen in NEBC (and in BEDF) collected by Eaton on May 25, 1956 in hillside pasture at Annursnack Hill. Link to image.

Ranunculus fascicularis (GM8: same; TH: same) EARLY BUTTERCUP

Pratt says this is abundant on dry hills and ledges, noting it at Conantum. Hosmer simply refers to it at Conantum and the [Fairhaven] Cliffs. Eaton calls it uncommon, becoming rare. Specimens in Thoreau herbarium without date or locality. There are eight references to this in Thoreau's *Journal*. On April 7, 1855 he notes it at Lee's Cliff in Conantum. All his references appear to be to the occurrence at Lee's Cliff. Jarvis notes this at Millbrook side and Cliffs (probably Fairhaven Cliffs). Eaton collected this on May 30, 1932 on a rocky knoll at Martha's Point (BEDF specimen). On May 17, 1980 this author found it in flower at Martha's Point in Conantum, the only place this author saw it in Concord. This plant requires open, rocky habitat which has become greatly diminished since Thoreau's time. Cole Winstanley confirmed its persistence at Martha's Point in May 2016. Voucher specimen collected in NEBC collected by Edward Hoar on April 15, 1858 under Lee's Cliff. Link to image.

Ranunculus flabellaris (GM8: same; TH: Ranunculus purshii, Ranunculus multifidus) YELLOW WATER BUTTERCUP

Pratt says this is rather rare. Hosmer calls it common. Eaton says it is rather common. Specimens in Thoreau herbarium without date or locality. There are about 30 references to this in Thoreau's *Journal*. Jarvis notes this as Ranunculus multifidus on May 31, 1834 at river near B.[enjamin] Hallowell's [Thoreau's Hollowell Place by the Sudbury River]. Edward Hoar collected this on July 27, 1887 in the Sudbury River near Fairhaven Bay (BEDF specimen). M.L. Fernald collected this on May 21, 1911 on mud at the margin of the Concord River (NEBC specimen). Eaton collected this on May 30, 1932 in still water in the Sudbury River where abundant (BEDF specimen). Voucher specimen in GH collected by Walter Deane on May 18, 1890 in the Sudbury River. Link to image.

Ranunculus flammula var. ovalis (GM8: Ranunculus reptans var. ovalis; TH: Ranunculus flammula (typical variety), (variety reptans - misapplied), Ranunculus filiformis - misapplied) CREEPING SPEARWORT

Pratt says this is common along the banks of the river. Hosmer calls it common. Eaton says it is uncommon. Specimens in Thoreau herbarium without date or locality. There are about 15 references to this in Thoreau's *Journal*. Jarvis notes this as Ranunculus filiformis on banks of the Concord River and in Merrick's pasture [which included today's Old Calf Pasture]. Voucher specimen in NEBC collected by C.E. Perkins on June 17, 1880 with no locale within Concord given. Link to image.

Ranunculus recurvatus var. recurvatus (GM8: same; TH: same) HOOKED CROWFOOT

Pratt says this is not common, noting it at roadside on Punkatasset Hill. Hosmer lists this without comment and only one flowering date in 1890. Eaton calls it infrequent. Specimens in Thoreau herbarium without date or locality. There are about six references to this in Thoreau's *Journal*. On March 27, 1852 he notes this by the Corner Spring. On May 22, 1854 he mentions it in flower at V.[iola] Muhlenbergii Brook. On May 22, 1981 this author found it at Annursnack Hill. On May 20, 1982 this author found it in the vicinity of the Rhododendron prinophyllum site [the same vicinity of Thoreau's Viola Muhlenbergii Brook]. Voucher specimen in NEBC (and in BEDF) collected by Eaton on June 1, 1958 in swampy woods at the edge of a brook west of Old Marlborough Road near Sudbury [town] boundary, where scarce. Link to image.

# RANUNCULUS REPENS (GM8: same, including var. villosus; TH:same) CREEPING BUTTERCUP

Pratt and Eaton say this is common. Hosmer does not list this. Specimens in Thoreau herbarium without date or locality. There are about 23 references to this in Thoreau's herbarium. Leslie J. Mehrhoff collected this on June 9, 2000 in a wooded swamp west of an industrial park near Hanscom Field (CONN specimen). Voucher specimen in NEBC collected by Edward Hoar on May 3, 1858 with no particular locale within Concord given. Link to image.

Thalictrum dioicum (GM8: same; TH: same)

EARLY MEADOW-RUE

Pratt simply notes only that it is in small quantity on the west slope of Punkatasset Hill. Hosmer only refers to it at the lime kiln [in Estabrook Woods]. Eaton says it is rare. Specimens in Thoreau herbarium -- one collected on September 4, 1857 at Thalictrum Rock [see below], the others without date or locality. There are about seven references to this in Thoreau's Journal. On May 28, 1856 he notes it abundantly out in flower near a wall in Painted-Cup Meadow [Annursnack Hill]. On September 4, 1857 [date of his herbarium specimen] he records finding it at the cleft rock [Cornel Rock/Thalictrum Rock, see this author's Thoreau Place Names] by the hill just west of the Picea mariana swamp south of Bateman's Pond along with some other uncommon plants such as Cornus rugosa. On June 13, 1979 this author found it at the lower lime quarries in Estabrook Woods. On May 11, 1980 this author found it in flower at Annursnack Hill. Cole Winstanley found some of this at the Bemis Cliffs in Aug. 2015. Voucher specimen in NEBC collected by Edward Hoar on September 8, 1857 at Oak Meadow [now Mink Pond in the Estabrook Woods]. Link to image.

Thalictrum pubescens (GM: Thalictrum polygamum; TH: Thalictrum cornuti) TALL MEADOW-RUE

Pratt, Hosmer and Eaton say this is common. Specimens in Thoreau herbarium without date or locality. There are about 34 references to this in Thoreau's *Journal*. Eaton collected this on July 4, 1920 in a meadow by Jenny Dugan Brook (BEDF specimen). Voucher specimen in NEBC collected by Eaton on July 6, 1956 (misidentified by him as Thalictrum dasycarpum) in waste ground of a dump off Laws Brook Road. <u>Link to image</u>.

Thalictrum thalictroides (GM8: Anemonella thalictroides; TH: Thalictrum anemonoides)

Pratt and Hosmer say this is common. Eaton calls it uncommon. Specimens in Thoreau herbarium without date or locality. There are about 15 references to this in Thoreau's *Journal*. Eaton collected this on May 11, 1930 in light soil of grassy oak scrub on his wood lot near Goose Pond (BEDF specimen). Unpublished notes of Eaton and this author's own notes indicate that it was also found near Martha's Point. In June 2016 Cole Winstanley found a large colony totaling more than 2000 plants in broad swathes in the area bordered by the Sudbury town line, Old Pickard Road and railroad tracks. Voucher specimen in NEBC collected by Eaton on April 30, 1922 in rich, pine woods east of Bateman's Pond. Link to image.

XANTHORHIZA SIMPLICISSIMA (GM8: same; TH: Zanthorhiza apiifolia) YELLOWROOT

Pratt states "A single plant found in 1870, on the roadside opposite the house of the author [Pratt]. ... It has been propagated and set on the banks of a small brook in the woods north of Pongatasset [Punkatasset Hill]." Hosmer simply notes it at Millrace [Thoreau mill site in Estabrook Woods]. Eaton says it is rare. No specimen in Thoreau herbarium or reference to this in his *Journal*. Emile F. Williams collected this on May 8, 1898 "Introduced by Minot

Pratt on a brook N. of Punkatasset Hill" (GH specimen). Robert Bye collected this on May 7, 1972 along Waterthrush Brook near Esker Trail and old cellars southeast of Mink Pond in the Estabrook Woods (NEBC and BEDF specimens). On November 1, 1979 this author found it along Thoreau Brook in the Estabrook Woods and collected it there at the dam site on April 12 (flowers) and September 27 (fruit), 1981 (BEDF specimen). This author also found it in the Pratt area southwest of Punkatasset Hill. Voucher specimen in GH collected by Minot Pratt "spontaneous" in June 1874 with no locale particular within Concord given. Link to image.

**Rhamnaceae** (GM8: same; TH: same)

Ceanothus americanus (GM8: same: TH: same)

**NEW JERSEY TEA** 

Pratt says this is common in the old bushy fields in the eastern and southern parts of the town. Hosmer calls it common. Eaton says it is frequent. Specimen in Thoreau herbarium without date or locality. There are about 18 references to this in Thoreau's Journal. Jarvis notes it near [Nine Acre] Corner bridge [Hubbard's Bridge]. In the late 1970s and early 1980s this author found it to be uncommon and saw some just east of the small bridge that crosses Second Division Brook before it flows into Kennedy's Pond. In 2021 Cherrie Corey reported this to have become scarce. Voucher specimen in NEBC collected by Edward Hoar on August 5, 1858 along the road to Lincoln [now Route 126]. Link to image.

FRANGULA ALNUS (GM8: Rhamnus frangula; TH: not treated in the manuals used by Thoreau)

### **GLOSSY BUCKTHORN**

Pratt and Hosmer do not list this. Eaton says it is common and notes that it was first documented in New England in Wakefield, MA in 1915, became well established in several localities in Concord by 1937 and was frequent throughout Concord as of 1965. No specimen in Thoreau herbarium or reference to this in his Journal. Eaton collected this on June 23, 1936 in open woods on the east side of Ripley Hill, and on July 20, 1937 in low around of a peaty field (I. Boardman's field) southwest of Punkatasset Hill, numerous plants (NEBC specimens), and on June 5 1970 with Mary McClintock in open deciduous woods of Valley Road in Conantum (VT specimen). In the late 1970s and early 1980s this author found it to be seemingly ubiquitous in woods, thickets and along roadsides, often abundant. Leslie J. Mehrhoff collected this on June 9, 2000 in a wooded swamp west of an industrial park near Hanscom Field (CONN specimen). Voucher specimen in NEBC collected by William Brewster on June 27, 1918 on dry, grassy hilltop of Miss Mary Eaton's estate. Link to image.

# RHAMNUS CATHARTICA (GM8: same; TH: same)

COMMON BUCKTHORN

Pratt says it is cultivated for hedges but occasionally found wild. Hosmer does not list this. Eaton lists this only in an appendix as probably in Concord. Specimens in Thoreau herbarium without date or locality. There are about eight references to this in Thoreau's Journal, but none are to wild occurrence in Concord. E.H. Eames and Charles C. Godfrey collected this on July 14, 1908 in a fence-row (Yale University specimen). In the late 1970s and early 1980s this author found it to be at least frequent. This author collected it on May 18 (flowers) and September 14 (fruit), 1976 just beyond the Lowell Road bridge toward Carlisle (BEDF specimen). Voucher specimen in NEBC collected by Laurence E. Richardson on May 19, 1962 (flowers) and September 30 (fruit), 1962 with no particular locale within Concord given. Link to image.

# **Rosaceae** (GM8: same; TH: same)

Agrimonia gryposepala (GM8: same; TH: Agrimonia eupatoria (in part) - misapplied) Pratt simply gives habitat for this (including Agrimonia striata). Hosmer says this (including Agrimonia striata) is very common. Eaton calls this frequent. No specimen of this in Thoreau herbarium. There are about seven references in Thoreau's journal to this (including Agrimonia striata). Colleen M. Handel collected this on July 19, 1972 in the limestone quarries in the Estabrook Woods (BEDF specimen). Voucher specimen in NEBC collected by Edward Hoar on August 22, 1886 at Great Boulder east of Bateman's Pond. Link to image.

Agrimonia striata (GM8: same; TH: Agrimonia eupatoria (in part) - misapplied)
Pratt simply gives habitat for this (including Agrimonia gryposepala). Hosmer says this (including Agrimonia gryposepala) is very common. Eaton calls this uncommon. Specimen in Thoreau herbarium without date or locality has been identified as Agrimonia striata by Walter Kittredge. There are about seven references in Thoreau's journal to this (including Agrimonia gryposepala). Voucher specimen in NEBC collected by Walter Deane in July 1887 with no locale within Concord given. Link to image.

Amelanchier arborea (GM8: same; TH: not treated in the manuals used by Thoreau) DOWNY SHADBUSH

Pratt and Hosmer would not have distinguished this. Eaton says this is rare. No specimen in Thoreau herbarium or reference in his *Journal* that can be definitely associated with this. On May 6, 1979 this author found apparently one plant near Kalmia Swamp on Conantum. Voucher specimen in NEBC collected by Eaton on May 13, 1956 in dry oak woods at the edge of an old wood road near Goose Pond on the northeast side. <u>Link to image</u>.

Amelanchier canadensis var. canadensis (GM8: same; TH: same, including var. botryapium and var. oblongifolia, Pyrus ovalis)

### EASTERN SHADBUSH

Pratt and Hosmer say this is common. Eaton calls it very common, our commonest species. Specimen in Thoreau herbarium without date or locality. There are nearly 100 references to Amelanchier plants in Thoreau's *Journal* that might refer to this species, but a modest fraction of these likely refer to Amelanchier laevis or Amelanchier spicata. Eaton collected this on March 23, 1957, June 6, 1957 and May 3, 1958 in sterile scrub oak in a grassy hollow near Goose Pond (NEBC specimens). Colleen M. Handel collected this on June 20, 1972 on the east bank of a pond in the Estabrook Woods (BEDF specimen). Voucher specimen in NEBC collected by Eaton on May 18, 1935 in dry, scrub woods in the Town Forest. Link to image.

Amelanchier laevis (GM8: same; TH: not scientifically described until 1912, would have been included under Amelanchier canadensis var. botryapium)

SMOOTH SHADBUSH

Pratt and Hosmer would not have distinguished this. Eaton says this is uncommon. A specimen in Thoreau herbarium without date or locality has been determined as this by Walter Kittredge. A small fraction of the nearly 100 references in Thoreau's *Journal* to Amelanchier plants would refer to this, more likely the ones using the name "botryapium" either as species or variety. This author saw it in various places in Concord in the late 1970s and early 1980s and agrees with Eaton that it was uncommon. Voucher specimen in NEBC

collected by Eaton on May 18, 1935 on a north slope near the pond shore [Fairyland Pond] in the Town Forest. Link to image.

Amelanchier spicata (GM8: Amelanchier stolonifera; TH: not scientifically described until 1869, most likely would have been included under Amelanchier canadensis var. oblongifolia) THICKET SHADBUSH

Pratt would not have distinguished this. Hosmer does not list it. Eaton says it is infrequent. No specimen in Thoreau herbarium that has been determined as this. A small fraction of the nearly 100 references in Thoreau's *Journal* to Amelanchier plants would refer to this, more likely the ones using the name "oblongifolia" either as species or variety. Eaton collected this on May 4, 1930 in dry oak woods along an old wood road on his wood lot near Goose Pond (NEBC specimen). This author saw it occasionally in Concord in the late 1970s and early 1980s. Voucher specimen in NEBC collected by Eaton on May 30, 1935 along the gravelly railroad bed of an abandoned railroad on the north side of Nashawtuc Hill. Link to image.

Aronia melanocarpa (GM8: Pyrus melanocarpa; TH: Pyrus arbutifolia var. melanocarpa) **BLACK CHOKEBERRY** 

Pratt, Hosmer and Eaton say this is common. Specimens in Thoreau herbarium without date collected from top of Ralph Waldo Emerson Cliff, from east sand shore of Walden [Pond], and without locality. There are about 17 references to this specifically in Thoreau's *Journal*. Many additional references would be included under the less specific names "Chokeberry" and "Pyrus arbutifolia" that also include a frequent hybrid. Jarvis notes this as Pyrus arbutifolia on May 31, 1835 in Merrick's pasture [which included today's Old Calf Pasture]. Laurence E. Richardson collected this on May 22 (flowers) and August 18 (fruit), 1965 at the Ministerial Swamp (BEDF specimen). Some specimens of Eaton and Laurence E. Richardson at BEDF identified as Aronia arbutifolia are most likely the hybrid Aronia x prunifolia since Eaton does not include Aronia arbutifolia in his *Flora* even as possible in Concord. Voucher specimen in NEBC collected by Eaton on May 18, 1935 on a shady slope near [Fairyland] Pond in the Town Forest where scarce. Link to image.

Comarum palustre (GM8: Potentilla palustris, including var. villosa; TH: same, Potentilla palustris)

#### MARSH CINQUEFOIL

Pratt does not list this. Hosmer simply notes habitat. Eaton says it is infrequent, noting a remarkable stand in the meadow south of Lee's Bridge, perhaps a quarter of an acre in extent, virtually excluding other vegetation. Specimens in Thoreau herbarium without date or locality. There are about six references to this in Thoreau's Journal. On July 1, 1852 while boating up the Sudbury River he sees this in flower. On June 16, 1853 he notes it in flower along the Sudbury River twenty or thirty rods above the Hubbard Bridge. Eaton collected this on July 7, 1930 at the Sudbury River (BEDF specimen). Voucher specimen in NEBC collected by Edward Hoar on August 1879 in a bog at the foot of Conantum Cliff. Link to image.

Crataegus chrysocarpa (GM8: same; TH: not scientifically described until 1900)

### **ROUND-LEAVED HAWTHORN**

Pratt and Hosmer do not list this. Eaton lists this only in an appendix as probably in Concord. No specimen in Thoreau's herbarium. Voucher specimen in NEBC and BEDF collected by this author on May 11, 1981 (flowers) and September 14, 1983 (fruit) from same plant on a rock outcrop by roadside along Old Marlborough Road on west side between Harrington Avenue and Old Rifle Range about 200 meters north of Williams Road. Link to image.

Crataegus coccinea (GM8: Crataegus pedicellata + Crataegus holmesiana, including var. villipes, and other species; TH: same (in part))

SCARLET HAWTHORN

Pratt simply notes this in the northern part of town, but his identification in this difficult group is dubious. Hosmer lists this without comment, also of dubious identification. Eaton says this is infrequent. One specimen in Thoreau herbarium from Conantum labeled as this, likely correctly, matching a *Journal* reference of June 6, 1857. There are about five references to this in Thoreau's *Journal*, but identifications are uncertain. Eaton collected this on May 23, 1964 at the edge of pine woods on the southeast side of the old 9<sup>th</sup> hole of an old golf course northwest of Nashawtuc Hill (NEBC specimen). On June 6, 1980 this author found it southwest of Annursnack Hill. Voucher specimen in NEBC (and in BEDF) collected by Laurence E. Richardson on May 13, 1964 (flowers), July 7, 1964 (fruit) at Annursnack Hill. Link to image.

Crataegus crus-galli (GM8: same; TH: same) COCKSPUR HAWTHORN

Pratt simply notes this in thickets in the north part of town. Hosmer only refers to it at Flint's Bridge. Eaton simply remarks that no specimens seen northeast of Concord and Middlesex Fells in Massachusetts [but has been found in Essex County, MA northeast of Concord]. A specimen in Thoreau herbarium labeled as this from Miles Swamp might be correctly identified. There are about 16 references to this in Thoreau's *Journal*, some of these are likely to include the similar Crataegus succulenta. Jarvis notes it near factory. Eaton collected this on May 23, 1964 at the edge of woods along the fairway of the 9<sup>th</sup> hole of an old golf course at the foot of the northwest side of Nashawtuc Hill (NEBC specimen). On May 24, 1982 this author found the same small colony from which Eaton collected north of Nashawtuc Hill in a wooded thicket at the edge of a pasture that was in the rear of a residence. In 2007 this author found only one small tree of this still at this location. Cole Winstanley found two mature trees in Aug. 2015 in an overgrown house lot that had never been built on west of Westford Road and east of Spencer Brook. Voucher specimen in NEBC collected by Eaton on July 25, 1957 in an overgrown pasture northeast of Bateman's Pond. Link to image.

Crataegus macrosperma (GM8: same, including varieties such as var. acutiloba & var. roanensis, and other species, such as Crataegus flabellata var. grayana; TH: not scientifically described until 1899, would have been included under Crataegus coccinea in Thoreau's time. VARIABLE HAWTHORN

Pratt and Hosmer do not list this. Eaton says it is infrequent. A specimen in Thoreau's herbarium that he refers to as the early thorn from the "hill" (Nashawtuc Hill) this author has recognized to be this species that Eaton (and later this author) also found and collected at Nashawtuc Hill. In his *Journal* Thoreau refers to this hawthorn at this location a few times, such as on May 19, 1854. This is the most common Crataegus species in Concord. Eaton collected this on June 7, 1935 in dry hollow in sparse scrub in the Town Forest (NEBC specimen). Laurence E. Richardson collected this on May 21 (flowers) and August 16, 1964 (fruit) at Virginia Road (NEBC and BEDF specimens). Voucher specimen in NEBC (and in BEDF) collected by Laurence E. Richardson on May 22 (flowers) at Strawberry Hill Road. Link to image.

Crataegus pruinosa (GM8: same; TH: not distinguished in the manuals used by Thoreau) FROSTED HAWTHORN

Pratt and Hosmer do not list this. Eaton lists this only in an appendix as unlikely in Concord. No specimen in Thoreau herbarium or reference to this in his *Journal*. Voucher specimen in

NEBC and BEDF collected by this author on May 25, 1980 (flowers) at the edge of rocky woods with dioritic exposure overlooking the Sudbury River at Martha's Point. <u>Link to image</u>.

Crataegus succulenta (GM8: same, including var. macracantha; TH: not distinguished in the manuals used by Thoreau)

### LONG-SPINED HAWTHORN

Pratt and Hosmer do not list this. Eaton says it is infrequent. No specimen in Thoreau herbarium or reference to this in his *Journal*. Eaton bases his inclusion in the *Flora* on a specimen in NEBC collected by H.A. Purdie where the locality is open to question. On May 30, 1978 this author collected some of it in flower along Walden Street opposite the Town Forest (northwest corner). Voucher specimen in BEDF collected by this author on May 30, 1978 (flowers), September 14, 1976 (fruit) and February 25, 1979 (winter buds) from the same plant at roadside on Walden Street near and on the opposite side of the Town Forest. Image not available.

Dasiphora fruticosa (GM8: Potentilla fruticosa; TH: Potentilla fruticosa) SHRUBBY CINQUEFOIL

Pratt simply notes that only two or three plants in a swamp near the lime quarries [Estabrook Woods] have been found. Hosmer records it only from the Lime Quarry Swamp in Concord. Eaton says it is rare. No specimen in Thoreau herbarium or reference to this in his *Journal*. Voucher specimen in NEBC collected by Edward Hoar [no date] in bog head of pond at Fairyland [pond in Town Forest]. <u>Link to image</u>.

Drymocallis arguta (GM8: Potentilla arguta; TH: Potentilla arguta) TALL CINQUEFOIL

Pratt says this is rare, noting it on a rocky ledge bordering the river some distance below Conantum, most likely referring to Martha's Point. Hosmer simply refers to this at Mine Hill [near Lee's Bridge] and a site in Sudbury. Eaton calls it infrequent. Specimen in Thoreau herbarium without date collected from Bittern Cliff [Martha's Point]. There are about three references to this in Thoreau's *Journal*. On June 16, 1853 he notes finding it at Bittern Cliff on the south side. Voucher specimen in NEBC collected by Edward Hoar August 7 [no year] at Conantum cliff [Martha's Point]. Link to image.

Fragaria virginiana subsp. virginiana (GM8: same; TH: same (in part)) WILD STAWBERRY

Pratt and Hosmer say this is common. Eaton calls this abundant. Specimens in Thoreau herbarium without date or locality. There are about 80 references to this in Thoreau's *Journal*. Included among these references might be a few to Fragaria virginiana subsp. glauca. Eaton collected this on June 8, 1930 at Goose Pond (BEDF specimen). Voucher specimen in NEBC collected by Eaton on May 30, 1956 along a grassy wood road, Estabrook Road. <u>Link to image</u>.

Fragaria virginiana subsp. glauca (GM8: Fragaria virginiana var. terra-novae; TH: not scientifically described until 1871)

Pratt and Hosmer do not list this. Eaton says it is rare. No specimen in Thoreau herbarium. Voucher specimen in NEBC collected by F.W. Hunnewell  $2^{nd}$  on June 4, 1916 on the gravelly shore of Lake Walden. Link to image.

Geum aleppicum (GM8: same, including var. strictum; TH: Geum strictum) YELLOW AVENS

Pratt does not list this, but in his copy of Gray's *Manual of Botany* notes it from roadside near Poor Farm. Hosmer lists it without comment. Eaton says it is infrequent. No specimen in Thoreau herbarium. There are about two references to this in Thoreau's *Journal*. On July 2, 1854 he notes it as a new plant in flower at roadside at Gourgas sproutland [probably in

Concord but possibly in Lincoln, MA since the town line ran through the Gourgas property] but also near and north of the Assabet Bathing-Place out of bloom six days later. Jarvis collected this on July 1, 1834 in Merrick's Pature [which included today's Old Calf Pasture] (MASS specimen). Eaton collected this on July 8, 1934 in fallow field at Clamshell Bluff (BEDF specimen). Cherrie Corey reported seeing this in 2014 at Great Meadows occurring each year in reliably good supply all along the Dike Trail, and a couple plants along the wet edges of an old field near the Ripley building. Cole Winstanley photographed this in 2014 along a former trail along Elm Brook about 250 meters from Virginia Road. Voucher specimen in NEBC collected by Walter Deane on July 13, 1886 in a swamp. Link to image.

Geum canadense (GM8: same, including var. camporum; TH: Geum album, Geum virginianum - misapplied)

### WHITE AVENS

Pratt does not list this. It is included without comment in an addendum of three loose pages associated with his manuscript after his death. Hosmer says it is common. Eaton calls it infrequent. Specimens in Thoreau herbarium without date or locality. There are about three references to this in Thoreau's *Journal*. On August 2, 1853 he seems to have found it still in flower by a sassafras hedge on the south side of Nashawtuc Hill. Voucher specimen in NEBC collected by Eaton on August 17, 1957 along a dry wood road in the Estabrook Woods. <u>Link to image</u>.

Geum laciniatum (GM8: same, including var. trichocarpum; TH: Geum virginianum - misapplied)

### **ROUGH AVENS**

Pratt and Hosmer do not list this. Eaton says it is frequent. One specimen in Thoreau herbarium collected on June 6, 1855 or 1856 without locality, another collected at "Red Cohush wall" [Actaea rubra] which can be associated with his Journal entry for June 28, 1857, and apparently one other without date or locality. There are about three references to this in Thoreau's Journal. On June 28, 1857 he notes it past its peak of flowering by the Actaea rubra [only Concord location known to him being just south of Punkatasset Hill not far from the Concord River]. Eaton collected this on January 4, 1959 in open peaty ground on the north side of the Ledum pond-hole [Ledum Swamp] (NEBC specimen), and on June 26, 1959 in the Chamaecyparis Swamp west of Strawberry hill Road (Brown University specimen). Cherrie Corey (2014) reported that this appeared every year along all of the Great Meadows trails and the railroad bed there. She also saw it along other shady field/trail edges in the East Quarter and in the Wright Woods, generally not prolific at each location. On September 13, 2015 Cole Winstanley found this as one of the dominant plants on a drumlin in the woods west of White Pond near the Sudbury line west of the railroad tracks. Voucher specimen in NEBC collected by Eaton on June 25, 1933 on a steep river bank near Clamshell Bluff, and by Link to image.

Geum rivale (GM8: same; TH: same)

### **PURPLE AVENS**

Pratt, Hosmer and Eaton say this is common. Specimens in Thoreau herbarium without date or locality, another dated simply July 5. There are about four references to this in Thoreau's *Journal*. Eaton collected this on July 4, 1920 at Jenny Dugan Brook [Nut Meadow Brook] (BEDF specimen). Voucher specimen in NEBC collected by Edward Hoar on June 14, 1858 at the foot of Nusneck [Annursnack Hill]. Link to image.

MALUS BACCATA (GM8: Pyrus baccata; TH: not treated in the manuals used by Thoreau) SIBERIAN CRABAPPLE

Pratt, Hosmer and Eaton do not list this. No specimen in Thoreau herbarium or reference to it in his *Journal*. Voucher specimen in MASS collected by H. Ahles on October 15, 1977 along a roadside. <u>Link to image</u>.

MALUS PRUNIFOLIA (GM8: Pyrus prunifolia; TH: not treated in the manuals used by Thoreau)

CHINESE APPLE

Pratt, Hosmer and Eaton do not list this. No specimen in Thoreau herbarium or reference to this in his *Journal*. Voucher specimen in NEBC and BEDF collected by this author on September 13, 1979 (fruit) in a waste area west of Hanscom Air Base and northwest of Meriam's Hill, a few sapling trees 3-4 meters high at edge of thicket. <u>Link to image</u>.

MALUS PUMILA (GM8: Pyrus malus; TH: Pyrus malus)

**COMMON APPLE** 

Pratt simply notes habitat. Hosmer lists this without comment. Eaton says it is occasional. Two specimens in Thoreau herbarium without date or locality. There are about 455 references to this in Thoreau's *Journal*, the vast majority not being to wild occurrence. Voucher specimen in NEBC collected by Eaton on June 7, 1935 in open woods in the Town Forest. Link to image.

MALUS TORINGO (GM8: not treated; TH: not treated in the manuals used by Thoreau) TORINGO CRABAPPLE

Pratt, Hosmer and Eaton do not list this. No specimen in Thoreau herbarium or reference to it in his *Journal*. On May 7, 1977 this author found and collected this in flower, in fruit on September 23, 1977, and on February 17, 1979 (winter buds) all from the same tree along the old railroad bed north of Nashawtuc Hill where it crosses Thoreau's Azalea Brook near the station for Rhododendron prinophyllum site (BEDF specimen). Duplicates of this collecton given to NEBC at that time are missing. This author reported the find in *Rhodora* 83:157 (1981) which was the first report of this species naturalizing in Massachusetts. In 2021 Cherrie Corey reported this to have become infrequent and still spreading. Voucher specimen in NEBC collected by this author on September 25, 1983 from the same site noted above in moist, rich woods, scattered young trees up to 6 meters high and scattered seedlings. Link to image.

PHYSOCARPUS OPULIFOLIUS (GM8: same; TH: Spiraea opulifolia) EASTERN NINEBARK

Pratt and Hosmer do not list this. Eaton says it is rare. No specimen in Thoreau herbarium or reference to this in his *Journal*. Laurence E. Richardson collected this on September 14, 1963 in a ditch along a railroad track [possibly same station as Eaton's voucher specimen] (BEDF specimen). In 2021 Cherrie Corey reported this to be infrequent. Voucher specimen in NEBC collected by Eaton on September 23, 1963 on gravel shoulder of abandoned railroad near crossing at Monument Street. Link to image.

POTENTILLA ARGENTEA (GM8: same; TH: same) SILVERY CINQUEFOIL

Pratt says this is common. Hosmer and Eaton call it very common. Specimens in Thoreau herbarium without date or locality. There are about 18 references to this in Thoreau's *Journal*. Voucher specimen in NEBC collected by Edward Hoar in June or July 1857 along the road to Marlboro. Link to image.

Potentilla canadensis (GM8: same; TH: same, including var. pumila) DWARF CINQUEFOIL

Pratt says this is common. Hosmer calls it very common, including with it Potentilla simplex. Eaton says it is common. Specimens in Thoreau herbarium without date or locality. There are about 25 references to this in Thoreau's *Journal*. Eaton collected this on May 25, 1956 at Annursnack Hill (BEDF specimen). Robert Silberglied collected this on May 13, 1969 along a roadside in deciduous woods at Great Meadows National Wildlife Refuge (GH specimen). Voucher specimen in NEBC collected by Eaton on May 1, 1930 on a dry, sandy wood road on his wood lot near Goose Pond. Link to image.

Potentilla norvegica (GM8: same; TH: same)

ROUGH CINQUEFOIL

Pratt says this is a common weed. Hosmer and Eaton also call it common. Specimens in Thoreau herbarium without date or locality. There are about 18 references to this in Thoreau's *Journal*. Jarvis notes this in back of Prich[ard's]; near Merrick's pasture [which included today's Old Calf Pasture], Prichard being Moses Prichard who lived on the north side of Main Street close by Merrick's pasture. Eaton collected this on July 16, 1957 at the Great Meadows National Wildlife refuge (BEDF specimen). Voucher specimen in NEBC collected by Eaton on August 15, 1930 in moist, grassy pond hole on his wood lot near Goose Pond. Link to image.

POTENTILLA RECTA (GM8: same; TH: same)

SULPHUR CINQUEFOIL

Pratt simply notes this growing for a dozen or more years on the roadside near the Monument Street Bridge. Hosmer simply notes it at Liberty Street and the Old Road to Nine Acre Corner. Eaton says it is common. Specimen in Thoreau herbarium identified as this by Walter Kittredge is not from Concord. There is one reference to this in Thoreau's *Journal*. On July 31, 1860 he refers to George Bradford finding and bringing him a specimen of it in flower and finding it himself by the east wall in the road about six rods south of John Flint's house. Voucher specimen in NEBC collected by Eaton on August 9, 1956 on road shoulder of Virginia Road. Link to image.

Potentilla simplex (GM8: same, including var. calvescens; TH: same, Potentilla canadensis var. simplex)

OLD-FIELD CINQUEFOIL

Pratt implies that this is common in his reference to it as a variety of Potentilla canadensis. Hosmer includes this in Potentilla canadensis. Eaton says it is common. Specimens in Thoreau herbarium without date or locality. There are about six references to this in Thoreau's *Journal*. Edward Hoar collected this on August 22, 1857 along the road to Bedford (NEBC specimen). Voucher specimen in NEBC collected by Eaton on June 22, 1930 on dry wood road near Goose Pond. Link to image.

Prunus americana (GM8: same; TH: same, but not distinguished from Prunus nigra) WILD PLUM

Pratt simply notes this or Prunus nigra at the Estabrook place. Hosmer only refers to it or Prunus nigra at the lime kiln [Estabrook Woods] and on Fairhaven Road. Eaton says it is rare. No specimen in Thoreau herbarium as the two he identified as this are Prunus nigra. There are about 18 references to this or Prunus nigra in Thoreau's *Journal*. Laurence E. Richardson collected this on May 12, 1965 along a roadside in a thicket near the railroad at Conant Street (BEDF specimen). This author saw it as part of a thicket along the dirt entry road leading to the Hutchins Pond area of Monument Street. Voucher specimen in NEBC collected by Eaton on May 11, 1965 (flowers) in a roadside thicket in wild ground opposite a row of houses on Conant Street in West Concord north of railroad tracks. Link to image.

Prunus maritima (GM8: same; TH: same) BEACH PLUM

Pratt does not list this. Hosmer simple notes this on College Road and other places not named. Eaton says it is rare, not seen in recent years. Specimens in Thoreau herbarium without date or locality, or not from Concord. There are about 25 references to this in Thoreau's *Journal*. On September 20, 1857 he refers to this behind A. Clarke's. On May 19, 1860 he notes this in flower by Hubbard's wall. On September 22, 1860 he comments that this appears to prefer a sandy place, however far inland, and that "one of our patches grows on the only desert which we have." On September 20, 1979 this author found it on a small rock outcrop in a horse pasture in an area (Unicorn Green) between Strawberry Hill Road and Spencer Brook. This author collected it on May 6, 1976 (flowers), September 6, 1977 (fruit), February 11, 1979 (winter buds) along the causeway on the northwest side by the Lowell Road bridge over the Concord River, no doubt planted and possibly slightly escaped (BEDF specimens). Voucher specimen in NEBC collected by Edward Hoar on June 7, 1858 [no particular locale within Concord given]. Link to image.

Prunus nigra (GM8: same; TH: not distinguished from Prunus americana in the manuals used by Thoreau)

### CANADA PLUM

Pratt simply notes this or Prunus americana at the Estabrook place. Hosmer only refers to it or Prunus americana at the lime kiln [Estabrook Woods] and on Fairhaven Road. Eaton says this is rare. Specimens of this in Thoreau herbarium without date or locality labeled by him as Prunus americana. There are about 18 references to this or Prunus americana in Thoreau's *Journal*. Eaton collected this (as identified in 2018 by Walter Kittredge) on July 9, 1942 and May 19, 1966 on the north side of Route 2 eastward of the Sudbury Rover bridge in a roadside thicket near the crown of a causeway bank noting it probably escaped from a roadside planting when Route 2 was constructed and landscaped in 1935 (Arnold Arboretum specimens). Voucher specimen in NEBC collected by Charles W. Jenks on May 5, 1889 (flowers) on Limekiln Road [Estabrook Woods]. Link to image.

Prunus pensylvanica (GM8: same; TH: same, Cerasus pennsylvanica, Prunus borealis)

Pratt only notes a few trees in woods near the track of the Sandy Pond Aqueduct. Hosmer lists this without comment. Eaton says it is common. Specimen in Thoreau herbarium without date or locality. There are about 47 references to this in Thoreau's *Journal*. Jarvis notes this in Concord woods near Caesar's. Edward Hoar collected this on May 24, 1858 on rocky land in front of Ed. Hosmer's, a bush 2 or 3 feet high (NEBC specimen). Eaton collected this on July 12, 1937 on light, gravelly soil in dry scrub woods on his woodlot near Goose Pond (NEBC specimen). This author collected it on April 26, 1981 (flowers) and July 1, 1982 (fruit) from the same tagged tree in an open, sandy area beside railroad tracks in the Jenny Dugan Desert off Williams Road (BEDF specimen). Voucher specimen in NEBC collected by Eaton on May 18, 1935 in dry, scrubby woods in the Town Forest. Link to image.

Prunus pumila var. susquehanae (GM8: Prunus susquehanae; TH: Prunus pumila, Cerasus pumila)

### **DWARF SAND CHERRY**

Pratt says this is rare, noting it in dry, open copses in the southwest part of town and the south side of Punkatasset Hill. Hosmer lists it without comment. Eaton calls it uncommon. Specimens in Thoreau herbarium without date or locality. There are about 38 references to this in Thoreau's journal. This author collected it on April 29, 1977 (flowers) and August 2,

1977 by the road on the east side of Walden Street shortly coming to the Route 2 intersection (BEDF specimens). Also, this author found a very substantial colony with many plants on the eastern side of an open sand plain north of Hunters Ridge Road and east of Second Division Brook, a plain this author has dubbed the Second Division Mesa, which later became off limits to the public. In 2007 this author found a small amount of this along the Old Marlborough Road approximately opposite the Concord Middle School (Sanborn School) with Asclepias amplexicaulis. Voucher specimen in NEBC collected by Eaton on July 9, 1939 (foliage) in dry, gravelly open oak woods near Goose Pond. Link to image.

Prunus serotina var. serotina (GM8: same; TH: same, Cerasus serotina) BLACK CHERRY

Pratt says this is abundant. Hosmer and Eaton call it common. Specimen in Thoreau herbarium without date or locality. There are about 50 references to this in Thoreau's *Journal*. Eaton collected this on May 18, 1935 on hard ground near the swampy end of Fairyland Pond in the Town Forest (NEBC specimen), and on June 8, 1956 along Estabrook Road (BEDF specimen). Voucher specimen in NEBC collected by Eaton on May 31, 1930 in dry scrub on his wood lot near Goose Pond. Link to image.

Prunus virginiana var. virginiana (GM8: same; TH: same, Cerasus virginiana) CHOKE CHERRY

Pratt simply notes it at roadside between Mr. Worcester's and the State Prison, and dry woods in the southwest part of town. Hosmer and Eaton call it common. Specimens in Thoreau herbarium without date or locality. There are about 38 references to this in Thoreau's *Journal*. In 2021 Cherrie Corey reported this to have become infrequent. Voucher specimen in NEBC collected by Edward Hoar (mistakenly as Prunus maritima) on September 4. 1886 along a roadside [no locale within Concord given]. Link to image.

PYRUS COMMUNIS (GM8: same; TH: same)

## COMMON PEAR

Pratt says this is occasional. Hosmer simply notes this at Punkatasset Hill. Eaton lists this only in an appendix as unlikely in Concord. Specimen in Thoreau herbarium without date or locality. There are about 39 references to this in Thoreau's *Journal*. On May 12, 1853 he refers to "A wild pear in blossom on Ponkawtasset [Punkatasset Hill]." Thoreau's herbarium specimen in GH is accepted as the voucher for this. <u>Link to image</u>.

ROSA CANINA (GM8: same; TH: not treated in the manuals used by Thoreau)

Pratt and Eaton do not list this. Hosmer notes it from Bateman's [Pond] and Strawberry Hill Road. No specimen in Thoreau's herbarium or reference to this in his *Journal*. Voucher specimen at MASS collected by Harry Ahles on October 15, 1977 along a roadside. <u>Link to image</u>.

Rosa carolina subsp. carolina (GM8: same; TH: Rosa lucida (in part))
PASTURE ROSE

Pratt says this (including Rosa virginiana and Rosa nitida) abounds in various soils. Hosmer calls this (including Rosa virginiana) common. Eaton says this is common. Specimens in Thoreau herbarium without date or locality (labeled by him as R. nitida var. lucida?). There are about 24 references to this or Rosa virginiana in Thoreau's *Journal*. Voucher specimen in NEBC collected by Walter Deane on July 13, 1886 on a dry hillside [no locale within Concord given]. Link to image.

ROSA MULTIFLORA (GM8: same; TH: not treated in the manuals used by Thoreau)

Pratt and Hosmer do not list this. Eaton says this is rapidly becoming frequent. No specimen in Thoreau herbarium or reference to this in his *Journal*. Voucher specimen in NEBC collected

by Eaton on June 23, 1961 in swampy brook meadow near Millbrook in rear of Middlesex Institute for Savings. Link to image.

Rosa nitida (GM8: same; TH: same; Rosa lucida var. nitida)

NORTHEASTERN ROSE

Pratt includes this along with Rosa carolina and Rosa virginiana under "Rosa lucida" which he says abounds in various soils. Hosmer lists this without comment. Eaton says it is common. Specimens in Thoreau herbarium with question mark and no date or locality. There are about 19 references to this in Thoreau's *Journal*. Voucher specimen in NEBC collected by Walter Deane on July 8, 1886 at the border of a ditch. Link to image.

Rosa palustris (GM8: same; TH: Rosa carolina - misapplied) SWAMP ROSE

Pratt says this is frequent. Hosmer and Eaton call it common. Specimens in Thoreau herbarium without locality, one dated August 1, 1856 (while in Concord), the others undated. There are about 30 references to this in Thoreau's *Journal*. Eaton collected this on August 23, 1957 at Punkatasset Hill (BEDF specimen). Voucher specimen in GH collected by David Potter on July 15, 1925 at the Concord River. Link to image.

ROSA RUBIGINOSA var. RUBIGINOSA (GM8: Rosa eglanteria; TH: same, Rosa micrantha) SWEETBRIER

Pratt says this is rare, noting it only in the neighborhood of Punkatasset Hill, but also lists this under "Rosa micrantha" as common. Hosmer calls it common. Eaton says it is infrequent. Specimens in Thoreau herbarium without date or locality, except two referred to as Pratt's variety of this (likely from Pratt's Punkatasset Hill site). One of the Pratt variety specimens can be associated with Thoreau's *Journal* entry of September 3, 1854. There are about 40 references to this in Thoreau's *Journal*. Jarvis notes this on June 27, 1834 near Nathan Barrett (who resided on Punkatasset Hill). On June 28, 1980 this author collected it on the south slope of Annursnack Hill nearing the end of its flowering (BEDF specimen). Voucher specimen in NEBC collected by Walter Deane on July 4, 1886 on dry ground. Link to image.

Rosa virginiana (GM8: same; TH: Rosa lucida (in part))

Pratt says this (including Rosa carolina and Rosa nitida) abounds in various soils. Hosmer calls this (including Rosa carolina) common. Eaton says this is very common. Specimen in Thoreau herbarium collected on September 2, 1856 at Jesse Hosmer's farm, and others without date or locality. There are about 24 references to this or Rosa carolina in Thoreau's *Journal*. Eaton collected this on June 20, 1958 above the steep bank of Nashoba Brook in a dry, gravelly place near the brook (Brown University specimen, mistakenly databased there as Rosa rugosa). Voucher specimen in NEBC collected by Eaton (mistakenly as Rosa carolina) on June 22, 1935 in copses and thickets in the Town Forest. Link to image.

Rubus allegheniensis (GM8: same; TH: Rubus villosus (in part))

COMMON HIGHBUSH BLACKBERRY

Pratt and Hosmer say this is common, but likely including Rubus pensilvanicus. Eaton calls it uncommon, though locally abundant. Specimens in Thoreau herbarium without date or locality, or not from Concord. There are about 35 references to this (and likely also Rubus pensilvanicus) in Thoreau's *Journal*. Eaton collected this on June 28, 1949 at Goose Pond, and on June 7, 1960 at Annursnack Hill (BEDF specimens). Voucher specimen in NEBC collected by Eaton on June 20, 1958 on a moist bank along an old railroad track near Monument street railroad crossing. Link to image.

Rubus enslenii (GM8: same; TH: not treated in the manuals used by Thoreau, would have been included under Rubus canadensis)

Pratt and Hosmer do not list this, but would have included it under Rubus canadensis (which Pratt says is abundant and Hosmer calls common). Eaton says it is infrequent. No specimen in Thoreau herbarium or reference to this in his *Journal*. Laurence E. Richardson collected this on June 5, 1961 at the Assabet River and railroad track (BEDF specimen). Eaton collected this on June 1, 1963 in a dry hillside thicket on the south side near the foot of Annursnack Hill (NEBC and BEDF specimens). Voucher specimen in NEBC collected by Eaton on June 1, 1960 in sterile, sandy soil at border of oak scrub northwest of intersection of Barrett's Mill Road and Strawberry Hill Road. Link to image.

Rubus flagellaris (GM8: same; TH: not treated in the manuals used by Thoreau, would have been included under Rubus canadensis)

#### COMMON DEWBERRY

Pratt and Hosmer do not list this, but would have included it under Rubus canadensis (which Pratt says is abundant and Hosmer calls common). Eaton inadvertently omitted this from his *Flora*, but in unpublished notes says it is common. Specimens without date or locality in Thoreau herbarium identified by him as Rubus canadensis have been identified as Rubus flagellaris by Walter Kittredge. No reference to this in his *Journal*. The Rubus canadensis specimen in Thoreau's herbarium and most of the approximately 39 references in his *Journal* to "Rubus canadensis" or "low blackberry" are likely this species. Eaton collected this on June 20, 1958 on Monument Street (BEDF specimen), on July 9, 1961 on Ball's Hill Road (BEDF specimen), on June 10, 1961 at thicket edge of river meadow on low bluff near the Nashawtuc Country Club club house (VT specimen), and on June 5, 1970 along the dry roadside of Sudbury Road near Route 2 (VT specimen). Voucher specimen in NEBC collected by Edward Hoar on June 7, 1858 with no locale within Concord given. Link to image.

Rubus hispidus (GM8: same, including var. obovalis; TH: same, Rubus sempervirens) SWAMP DEWBERY

Pratt and Hosmer say this is common. Eaton calls it frequent. Specimen in Thoreau herbarium without date or locality. There are about 20 references to this in Thoreau's *Journal*. Jarvis notes this as Rubus sempervirens on July 31, 1834 at Joseph Meriam's. Eaton collected this on July 13, 1935 in a swamp in the Town Forest (NEBC specimen). Voucher specimens in NEBC collected by Edward Hoar on August 25, 1857 in low ground near North Branch [Assabet River]. Link to image.

Rubus idaeus subsp. strigosus (GM8: same; TH: Rubus strigosus) WILD RED RASPBERRY

Pratt simply notes habitat. Hosmer says this is common. Eaton calls it uncommon. Specimens in Thoreau herbarium without date or locality, except for one undated apparently not from Concord. There are about four references to this in Thoreau's *Journal*. Many or most of his references to "raspberry" would also refer to this. Voucher specimen in NEBC collected by Eaton on October 9, 1921 in a wet glade on the north of Annursnack Hill. <u>Link to image</u>.

Rubus occidentalis (GM8: same; TH: same)

# **BLACK RASPBERRY**

Pratt says this is frequent in all parts of the town. Hosmer calls it common. Eaton says it is frequent. Specimen in Thoreau herbarium without date or locality. There are about 44 references to this in Thoreau's *Journal*. Voucher specimen in NEBC collected by Eaton on May 18, 1935 in swamp south of pond [Fairyland Pond] in the Town Forest. Link to image.

Rubus odoratus (GM8: same; TH: same)

PURPLE-FLOWERING RASPEBERRY

Pratt does not list this. Hosmer lists it without comment. Eaton says it is rare. Specimens in Thoreau herbarium without date or locality. There are about four references to this in Thoreau's *Journal*, but none of them to wild occurrence in Concord. On June 21, 1981 this author collected this in the area behind Pratt's residence near Punkatasset Hill (specimen missing). This author also found it in flower on June 22, 1982 at roadside woods on Monument Street near Ball's Hill Road. Specimen cited by Eaton in his *Flora* collected by C. Handel was misidentified. It is likely that all occurrences of this in Concord are from introductions since it was planted in gardens in Thoreau's time and wild occurrence of this showy plant would not likely have escaped the notice of both Thoreau and Pratt. Voucher specimen in NEBC collected by Hosmer without date or particular locale within Concord. <u>Link</u> to image.

Rubus pensilvanicus (GM8: same; TH: not distinguished in the manuals used by Thoreau, likely would have been included under Rubus allegheniensis)

Pratt and Hosmer do not list this. Eaton says it is uncommon, but occasionally abundant. Specimen in Thoreau herbarium dated August 25, 1857 from Conantum has been identified as this by Walter Kittredge. No reference to this in his *Journal*, but entry in his *Journal* for August 25, 1857 describes the specimen he collected on that date which he concludes is Rubus villosus var. frondosus, which is currently known as Rubus frondosus. Eaton collected this on August 7, 1932 at Goose Pond (BEDF specimen). Voucher specimen in NEBC collected by Eaton on July 13, 1935 in the big swamp in the Town Forest where abundant. Link to image.

Rubus pubescens (GM8: same; TH: Rubus triflorus)

**DWARF RASPBERRY** 

Pratt and Hosmer simply note habitat. Eaton says it is uncommon. Specimens in Thoreau herbarium without date or locality. There are about 19 references to this in his *Journal*. On May 8, 1981 this author collected it in a swamp east of Hubbard's Hill in the Estabrook Woods (BEDF specimen). Voucher specimen NEBC collected by Horace Mann, Jr. in 1862 with no locale within Concord given. Link to image.

Rubus recurvicaulis (GM8: same; TH: not scientifically described until 1906)
ARCHING DEWBERRY

Pratt and Hosmer do not list this. Eaton says it is rare. No specimen in Thoreau herbarium. Eaton collected this on July 16, 1951 at Walden Pond (BEDF specimen). Voucher specimen in NEBC collected by Eaton on June 19, 1958 on dry railroad bank [no particular locale within Concord given]. Link to image.

RUBUS RORIBACCUS (GM8: same; TH: not scientifically described until 1890, would have been included under Rubus canadensis)

LUCRETIA DEWBERRY

Hosmer and Eaton do not list this. No specimen of this in Thoreau herbarium. Some modern treatments include this under Rubus flagellaris. Voucher specimen in GH collected (but not identified) by Eaton on June 25, 1935 in dry woods with no locale in Concord given. <u>Link to image</u>.

Rubus semisetosus (GM8: same; TH: not scientifically described until 1907) SWAMP BLACKBERRY

Pratt and Hosmer do not list this. Eaton says it is rare. No specimen in Thoreau herbarium. Eaton collected this on July 16, 1961 on a dry, steep gravel bank of a railroad embankment south of Walden Pond on the east side (University of New Hampshire specimen), and on June 16, 1962 in low ground shaded by a thicket southwest of Heath's Bridge (NEBC specimen).

Voucher specimen in NEBC collected by Eaton on July 9, 1961 in sandy soil of an old hay field off Ball's Hill Road. Link to image.

Rubus setosus (GM8: same; TH: same)

**BRISTLY BLACKBERRY** 

Pratt does not list this. Hosmer simply notes this (as Rubus setaceous) at railroad track near Egg Rock. Eaton lists this only in an appendix as probably in Concord. A specimen in Thoreau herbarium collected at Ball's Hill without a date has been identified as this by Walter Kittredge. No reference to this in Thoreau's *Journal*. Voucher specimen in NEBC (and in BEDF) collected by this author on August 19, 1981 (fruiting) at the edge of a grassy, old field (near marsh) opposite Jenny Dugan Well (west of Old Road to Nine Acre Corner), numerous upright plants. Link to image.

SORBARIA SORBIFOLIA (GM8: same; TH: Spiraea sorbifolia) FALSE SPIREA

Pratt and Hosmer do not list this. Eaton says it is occasional. No specimen in Thoreau herbarium or reference to this in his *Journal*. This author found it in flower on June 28, 1980 apparently at the same site noted below where Eaton collected his voucher specimen. Voucher specimen in NEBC collected by Eaton on September 10, 1957 at roadside on Barrett's Mill Road south of Annursnack Hill where well established. Link to image.

SORBUS AUCUPARIA (GM8: Pyrus aucuparia; TH: Pyrus aucuparia) EUROPEAN MOUNTAIN-ASH

Pratt and Hosmer do not list this. Eaton says it is occasional. No specimen in Thoreau herbarium from the wild in Concord. There are about five references to this in Thoreau's *Journal*, but none to wild occurrence in Concord. Voucher specimen in NEBC collected by Eaton on August 23, 1957 on wood road north of Punkatasset Hill as occasional seedlings. Link to image.

Spiraea alba var. latifolia (GM8: Spiraea latifolia; TH: Spiraea salicifolia) SMOOTH MEADOWSWEET

Pratt says this is abundant. Hosmer calls it very common. Eaton says it is common. Specimen in Thoreau herbarium without date or locality. There are about 55 references to this in Thoreau's *Journal*. Eaton collected this on June 19, 1920 along Estabrook Road (BEDF specimen), and on June 7, 1935 in a swamp in the Town Forest (NEBC specimen). Voucher specimen in NEBC collected by Edward Hoar on August 22, 1857 by the road to Bedford. Link to image.

Spiraea tomentosa (GM8: same; TH: same)

HARDHACK

Pratt says this is abundant. Hosmer calls it very common. Eaton says it is very common. Specimens in Thoreau herbarium without date or locality, except for white form collected behind Minot Pratt's. There are about 62 references to this in Thoreau's *Journal*. Eaton collected this August 17, 1935 at a pond margin [Fairyland Pond] in the Town Forest where frequent (NEBC specimen). Bryan Connolly collected this on October 3, 1993 on a wet, open shore at Walden Pond (Connecticut College of New London specimen). Cherrie Corey found great quantities of this in 2014 near a mowed path along the back of the commons field just south of Heath's Bridge Road. Voucher specimen in NEBC collected by Eaton on August 15, 1930 in a moist, grassy hollow on his wood lot near Goose Pond. Link to image.

**Rubiaceae** (GM8: same; TH: same (in part))

Cephalanthus occidentalis (GM8: same; TH: same)

BUTTONBUSH

Pratt simply notes it at the foot of Brister's Hill. Hosmer and Eaton say it is common. Specimen in Thoreau herbarium without date or locality. There are about 223 references to this in Thoreau's *Journal*. K. Shea and E. Blair collected this on August 16, 1977 in thickets near a deep marsh area at the Great Meadows National Wildlife Refuge (Connecticut College at New London specimen). Bryan A. Connolly collected this on October 3, 1993 on a wet beach at the edge of Walden Pond (MASS specimen). Voucher specimen in NEBC collected by Eaton on July 23, 1922 in a swampy kettle hole at the Concord Country Club. Link to image.

GALIUM APARINE (GM8: same; TH: same)

**CLEAVERS** 

Pratt and Hosmer do not list this. Eaton lists this only in an appendix as probably in Concord. Specimens in Thoreau herbarium labeled by him as this were collected at Lee's Cliff without date and others without date or locality. There are about four references to this in Thoreau's *Journal*, all at Lee's Cliff except one at the Deep Cut where he expresses uncertainty between Galium triflorum and Galium aparine. On May 15, 1982 this author found it where Oxcart Trail meets Route 2. On June 3, 1982 this author found it in flower at Pedrick's Meadow. In 2021 Cherrie Corey reported this to have become frequent. Voucher specimen in NEBC (and in BEDF) collected by this author on June 10, 1980 at edge of damp woods and in wet woods on the southwest side of Annursnack Hill where abundant. Link to image.

Galium asprellum (GM8: same; TH: same)

**ROUGH BEDSTRAW** 

Pratt, Hosmer and Eaton say this is common. Specimen in Thoreau herbarium without date or locality. There are about six references to this in Thoreau's *Journal*. Voucher specimen in MASS collected by Jarvis on June 28, 1834 on the brook from Hunts Pond near Ed. Hosmer. Link to image.

Galium circaezans var. circaezans (GM8: same; TH: same (in part)) LICORICE BEDSTRAW

Pratt simply notes habitat and Conantum as one among other unnamed sites for it, and which would include var. hypomalacum not distinguished in his time. Hosmer only notes this from Conantum and Strawberry Hill Road, and which would include var. hypomalacum not distinguished in his time. Eaton says this is rare. No specimen in Thoreau herbarium. There are about 10 references to this or var. hypomalacum in Thoreau's *Journal*. Eaton collected this on June 23, 1936 in open woods on the south side of Ripley Hill, and on August 1, 1957 in rocky woods at Martha's Point (BEDF specimens). Voucher specimen in NEBC collected by Eaton on June 11, 1932 at shady roadside in Estabrook Woods. Link to image.

Galium circaezans var. hypomalacum (GM8: same; TH: same (in part))

Pratt simply notes habitat and Conantum as one among other unnamed sites for it, and would include var. circaezans not distinguished from this in his time. Hosmer only notes this from Conantum and Strawberry Hill Road, and would include var. circaezans not distinguished from this in his time. Eaton says this is occasional. Specimen in Thoreau herbarium collected on August 7, 1856 without locale, others without date or locality. There are about 10 references to this or var. circaezans in Thoreau's *Journal*. Thoreau's *Journal* entry for August 7, 1856 mentions the Galium while on a berry party to Conantum. On June 8, 1981 this author found it in flower at Martha's Point. Voucher specimen collected by Hosmer with no date or particular locale within Concord given. Link to image.

Galium lanceolatum (GM8: same; TH: same)

Pratt says this is common. Hosmer simply notes it at Conantum. Eaton calls it uncommon. Specimen in Thoreau herbarium without date or locality, and another undated specimen labeled by him as Galium triflorum but identified by Walter Kittredge as Galium lanceolatum collected at Laurel Glen. This can be associated with the one reference to this in Thoreau's *Journal* on July 10, 1856 where he refers to having apparently pressed this (for his herbarium). Voucher specimen in NEBC collected by Eaton on June 25, 1932 in rocky deciduous woods at Conantum Cliff [Conantum Cliffs, see this author's *Thoreau Place Names*]. Link to image.

GALIUM MOLLUGO (GM8: same; TH: not treated in the manuals used by Thoreau) FALSE BABY'S-BREATH

Pratt and Hosmer do not list this. Eaton says this is occasional. No specimen in Thoreau herbarium or reference to this in his *Journal*. On June 21, 1981 this author found it in flower along a path off Virginia Road near the Thoreau birth site. Voucher specimen in NEBC collected by Eaton on July 2, 1936 in a fallow field at Clamshell Bluff. Link to image.

Galium obtusum subsp. obtusum (GM8: same; TH: same, Galium trifidum var. latifolium) Pratt says Galium trifidum (including also Galium obtusum, Galium palustre and Galium tinctorium) is common. Hosmer lists it without comment. Eaton calls it is frequent. Specimens in Thoreau herbarium labeled Galium trifidum without date or locality have been identified as Galium obtusum by Walter Kittredge. There are about six references to this in Thoreau's Journal. Voucher specimen in NEBC collected by Eaton on July 4, 1920 in wet meadow along Jenny Dugan Brook at the Concord Country Club. Link to image.

Galium palustre (GM8: same; TH: not treated in the manuals used by Thoreau, would have been included in Galium obtusum or Galium trifidum)

Pratt says Galium trifidum (including also Galium obtusum, Galium palustre and Galium tinctorium) is common. Hosmer calls Galium trifidum (including also Galium palustre and Galium tinctorium) common. Eaton says this is frequent. No specimen in Thoreau herbarium. Most or all of the approximately six references to "Galium trifidum" in Thoreau's *Journal* probably refer to this species. Voucher specimen in NEBC collected by Hosmer without date or particular locale within Concord given. Link to image.

Galium pilosum var. pilosum (GM8: same: TH: same)

Pratt says this is not so common as the other species [of Galium], noting it at Conantum. Hosmer does not list this. Eaton calls it occasional. Specimens in Thoreau herbarium dated August 7, 1856 collected at Conantum with purple flowers, and another simply dated August 30, 1856 (when Thoreau was in Concord). There are about two references to this in Thoreau's *Journal*. On August 7, 1856 while at Conantum he refers to this and Galium circaezans wondering if the latter ever has purplish flowers (which it does not). On July 6, 1859 he refers to it in flower while he is at Conantum. Eaton collected this on August 6, 1958 in rocky woods at Martha's Point (BEDF specimen). Voucher specimen in NEBC collected by Edward Hoar in September 1857 at Cliffs [Fairhaven]. Link to image.

Galium tinctorium (GM8: same; TH: same, Galium trifidum var. tinctorium)
Pratt says Galium trifidum (including also Galium obtusum, Galium palustre and Galium tinctorium) is common. Hosmer lists this (as Galium trifidum var. latifolium) without comment. Eaton says this is frequent. Specimens in Thoreau herbarium without locality or date likely considered by him to be Galium trifidum have been identified by Walter Kittredge as Galium tinctorium. There are about two references to this in Thoreau's Journal. On June 12, 1854 on his way to (or at) Walden Pond he questions whether a plant he has found is "Galium trifidum var. latifolium" [Galium obtusum] or "[Galium] tinctorium" [and well he

might since the two were poorly separated in the manuals he used]. Charles Jarvis collected this at the causeway near Corner Bridge, no date given, but he lived 1800-1826 (MASS specimen). Jarvis (Edward) collected this on June 25, 1834 near Hunt's Bridge (MASS specimen). Eaton and Charles Schweinfurth collected this (incorrectly identified as Galium palustre) on July 16, 1966 in the sphagnum bog southeast of Walden Pond (NEBC and BEDF specimens). Voucher specimen in NEBC collected by Eaton on July 10, 1957 along a gravel dyke, Middle Dyke, in wet meadow at Great Meadows National Wildlife Refuge. Link to image.

Galium trifidum subsp. trifidum (GM8: same; TH: same (in part))

Pratt says Galium trifidum (including also Galium obtusum, Galium palustre and Galium tinctorium) is common. Hosmer calls Galium trifidum (including also Galium palustre) common. Eaton says this is rare. Specimens in Thoreau herbarium specimens dated July 12, 1856 without locality (but see below) that Walter Kittredge has identified as Galium trifidum, and another not from Concord. There are about six references to this in Thoreau's *Journal*, most or all of which probably refer to Galium palustre. On June 16, 1854 he refers to this saying "I do not distinguish the varieties." [which are now treated as separate species] On July 12, 1856 he refers to this in the myosotis ditch at Moore's meadow by the [Cambridge] Turnpike. Voucher specimen in NEBC collected by Laurence E. Richardson on July 16, 1966 at edge of wet meadow along ditch on Kenney Farm about one quarter mile south of the farm buildings. Link to image.

Galium triflorum (GM8: same; TH: same)

SWEET-SCENTED BEDSTRAW

Pratt and Hosmer say this is common. Eaton calls it frequent. Specimens in Thoreau herbarium undated and without locality except for specimens collected on August 26, 1856 at Bee Tree Hill (in Lincoln, MA). Specimen in Thoreau herbarium labeled by him as Galium aparine with question marks without date or locality has been identified by Walter Kittredge as Galium triflorum. There are about eight references to this in Thoreau's *Journal*. In addition there are about four references to Galium aparine in Thoreau's *Journal*, all at Lee's Cliff except one at the Deep Cut where he expresses uncertainty between Galium triflorum and Galium aparine. Eaton collected this on July 16, 1958 in rocky woods on a diorite exposure at Martha's Point (NEBC specimen). Colleen M. Handel collected this on July 19, 1972 at the limestone quarries in the Estabrook Woods (BEDF specimen). Voucher specimen in NEBC collected by Eaton on July 6, 1958 in wet, springy ground in a wooded opening at the east branch of Second Division Brook. Link to image.

GALIUM VERUM var. VERUM (GM8: same; TH: same)

YELLOW BEDSTRAW

Pratt and Hosmer do not list this. Eaton says it is uncommon. No specimen in Thoreau herbarium or reference to this in his *Journal*. Eaton collected this on September 9, 1932 at roadside on the north side of Nashawtuc Hill where thoroughly naturalized [likely the locale of the NEBC voucher specimen] (BEDF specimen). Voucher specimen in NEBC collected by Eaton on September 10, 1932 in a dry field at roadside with no locale within Concord given. Link to image.

Houstonia caerulea (GM8: same; TH: same, Hedyotis caerulea, Oldenlandia caerulea)

Pratt simply lists habitat. Hosmer says it is very common. Eaton calls it common. Specimens in Thoreau herbarium without date or locality. There are about 59 references to this in Thoreau's *Journal*. Eaton collected this on April 30, 1922 in the dry Helsher's Pasture (BEDF specimen). Cherrie Corey (2014) reported seeing this in large numbers in recent years in

various places most notably in the Sleepy Hollow Cemetery and at the cul-de-sac of Sandy Pond Road near Route 2. Cole Winstanley (2014) reported seeing in recent years a large colony in the vicinity of the woodlot and spring on the Hallenback conservation land, and smaller colonies elsewhere. Voucher specimen in GH collected by Robert Silberglied on May 13, 1969 along roadside in deciduous forest at Great Meadows National Wildlife Refuge. Link to image.

Mitchella repens (GM8: same; TH: same)

PARTRIDGE-BERRY

Pratt simply lists habitat. Hosmer says it is very common. Jarvis and Eaton call it common. Specimen in Thoreau herbarium without date or locality. There are about 28 references to this in Thoreau's *Journal*. Eaton collected this on October 30, 1921 in moist pine woods in the Estabrook Woods, and on June 24, 1929 in rich oak woods on his wood lot near Goose Pond (BEDF specimens). Cole Winstanley (2014) reported this still to be plentiful, for example, in the Estabrook Woods and Spencer Brook area. Cherrie Corey reported (2014) this to be in significant populations in every publicly accessible, mixed pine-oak forest throughout Concord. Voucher specimen in NEBC (and BEDF) collected by Laurence E. Richardson on June 1, 1970 on the steep north slope of Annursnack Hill under pines. Link to image.

**Rutaceae** (GM8: same; TH: same (in part))

PTELEA TRIFOLIATA subsp. TRIFOLIATA (GM8: same; TH: same)

COMMON HOPTREE

Pratt and Hosmer do not list this. Eaton says it is rare. No specimen in Thoreau herbarium or reference to this in his *Journal*. Eaton with Penelope Logemann and Mary McClintock collected this on June 5, 1970 at roadside edge of deciduous woods at Conantum (NEBC specimen). This author found it in Concord on June 21, 1980, but did not record the particular locale. Voucher specimen in NEBC (and BEDF) collected by Laurence E. Richardson on October 29, 1969 at the foot of Nashawtuc Hill on the east side along a private roadway where it was spreading. Link to image.

**Salicaceae** (GM8: same; TH: same)

POPULUS DELTOIDES subsp. DELTOIDES (GM8: same; TH: Populus monilifera) COTTONWOOD

Pratt and Hosmer do not list this. Eaton says it is rare. No specimen in Thoreau herbarium. There are about three references to this in Thoreau's *Journal*, none of which are to wild occurrence in Concord. This author collected it on May 6, 1977 (fruit), April 25, 1978 (flowers) and February 3, 1979 (winter buds) from a large tree right at roadside on the west side of Keyes Road, possibly planted, and on April 25, 1978 (staminate flowers), August 15, 1978 (foliage), and February 3, 1979 (winter buds) along Sandy Pond Road (BEDF specimens). Voucher specimen in NEBC collected by Eaton on June 5, 1970 on dry, gravel soil in deciduous roadside woods at Conantum, one small tree. Link to image.

Populus grandidentata (GM8: same; TH: same)

BIGTOOTH ASPEN

Pratt says this is common. Hosmer lists this without comment. Eaton calls it common. Specimens in Thoreau herbarium without date or locality, except one simply dated May 11. There are about 57 references to this in Thoreau's *Journal*. Eaton collected this on May 4 and

June 8, 1930 at Goose Pond (BEDF specimen). Voucher specimen in NEBC collected by Eaton on June 7, 1935 in dry woods in the Town Forest. Link to image.

Populus tremuloides (GM8: same; TH: same, Populus tremuliformis) QUAKING ASPEN

Pratt says this is common. Hosmer does not list this. Eaton calls it common. Specimens in Thoreau herbarium without date or locality, except one simply dated May 22. There are about 45 references to this in Thoreau's *Journal*. Eaton collected this on June 8, 1930 at Goose Pond (BEDF specimen). Voucher specimen in NEBC (and BEDF) collected by this author on May 3, 1981 (fruiting) at roadside at the Lowell Road bridge where there were about a dozen trees of various ages. Link to image.

SALIX ALBA (GM8: same, including var. calva and var. vitellina; TH: same, including var. caerulea and var. vitellina, Salix caerulea)

#### WHITE WILLOW

Pratt does not list this. Hosmer says it is common. Eaton reports that this was a formerly common tree along the river [Sudbury & Concord Rivers] from Lee's Bridge to the Great Meadows, but now [1974] largely extirpated by disease. Specimens in Thoreau herbarium undated collected by boat, west of stone bridge, and by new stone bridge, and undated specimen without locality. There are about 93 references to this in Thoreau's *Journal*. Jarvis notes this as Salix vittelina on May 8, 1835 on causeway north of Ph. Hawks. Voucher specimen in NEBC collected by Edward Hoar on July 20-25, 1858 with no particular locale within Concord given. Link to image.

Salix bebbiana (GM8: same; TH: Salix rostrata)

## **BEBB WILLOW**

Pratt and Hosmer do not list this. Eaton says it is very common. Specimens in Thoreau herbarium collected without locality or dates except one dated May 14, 1857 and one dated simply May 26. Thoreau's *Journal* entry for May 14, 1857 discusses willows in Concord extensively in unpublished passages. There are about 17 references to this in Thoreau's *Journal*. Voucher specimen in NEBC collected by Eaton on June 7, 1935 in dry thickets in the Town Forest. Link to image.

Salix discolor (GM8: same; TH: same)

### **PUSSY WILLOW**

Pratt does not list this. Hosmer and Eaton say it is common. Specimens in Thoreau herbarium collected on May 9, 1857 at Indian Field [near Nashawtuc Hill, see this author's *Thoreau Place Names*], May 14, 1857 and May 5 & 4 (no year) without locality, by railroad (undated and June 4 with no year), at the south corner bridge (associated with unpublished *Journal* entry of May 13, 1857), and others without date or locality. There are about 37 references to this in Thoreau's *Journal*. A.R. Hodgdon and R. Ward collected this on April 19, 1933 in open woods near Walden Pond (University of New Hampshire specimen). Laurence E. Richardson collected this on May 11 and June 11, 1960 near the Assabet River (GH specimen), and on April 17, 1960 at Spencer Brook and the Assabet River (BEDF specimen). C.B. Hellquist and this author collected this on July 24, 1980 along a path at the Great Meadows National Wildlife Refuge (MASS specimen). Voucher specimen in NEBC collected by Edward Hoar on July 21, 1858 (foliage) at E. Wood's bridge [at Sudbury River]. Link to image.

Salix eriocephala (GM8: Salix rigida, including var. angustata; TH: same, Salix cordata, including var. rigida and var. torreyana, Salix torreyana)
WAND WILLOW

Pratt simply gives habitat. Hosmer lists this without comment. Eaton says it is common. Specimens in Thoreau herbarium, several without date or locality, ones collected on May 12

& July 8, 1857 at railroad, and May 3, 1858 and May 26 (no year) without locality. There are about 28 references to this in Thoreau's *Journal*. Edward Hoar collected this on May 10, 1858 in a swamp next to Mr. Prichard's (NEBC specimen). Laurence E. Richardson collected this on May 11 and June 11, 1960 near the Assabet River (GH specimen). C.B. Hellquist and this author collected this on July 24, 1980 along a path at the Great Meadows National Wildlife Refuge (MASS specimen). This author collected it on April 24 (flowers) and May 26 (fruit), 1982 and September 1, 1983 (foliage) from the same tagged shrub in a damp thicket along a path in Moore's Swamp (NEBC and BEDF specimens). Voucher specimen in NEBC collected by Eaton on May 18, 1960 in swampy ground in rear of Middlesex Institute for Savings. Link to image.

Salix humilis var. humilis (GM8: same; TH: same, Salix muhlenbergia) PRAIRIE WILLOW

Pratt says this is common. Hosmer list this without comment. Eaton calls it common. There are multiple specimens in Thoreau herbarium, some without date or locality, one collected on May 12, 1857, two collected at "sedge path" undated and on May 17, 1857, two at Stow's [field by railroad] without date, and one collected in the northwest corner of Britton's Hollow (in Concord) without date. There are about 29 references to this in Thoreau's *Journal*. Eaton collected this on August 1, 1929 in West Concord (BEDF specimen). This author collected it on April 24 (pistillate flowers), May 9 (fruit) and July 22 (foliage), 1979 just east of the sanitary landfill and south of Route 2 (BEDF specimen). Voucher specimen in NEBC collected by Eaton on May 18, 1935 in dry oak scrub in the Town Forest. Link to image.

Salix humilis var. tristis (GM8: Salix humilis var. microphylla; TH: Salix tristis, Salix longirostris)

### **DWARF PRAIRIE WILLOW**

Pratt says this is common, noting it in west Concord and near Middlesex Railroad among scrub oaks. Hosmer lists it without comment. Eaton says this is common. Five specimens in Thoreau herbarium without date or locality. There are about 33 references to this in Thoreau's Journal. Eaton on collected this May 4, 1930 in dry sandy soil in open hollow near Goose Pond [near where this author also saw it in the late 1970s] (BEDF specimen). Leslie J. Mehrhoff collected this on July 4, 2009 along the railroad south of Walden Pond (CONN specimen). Voucher specimen in NEBC and BEDF collected by this author on May 3, 1983 (pistillate flowers) in an open, dry, sandy area by a railroad in the Dugan Desert (intersection of Williams Road and Old Marlborough Road). Link to image.

Salix lucida (GM8: same; TH: same)

### SHINING WILLOW

Pratt does not list this. Hosmer simply notes it at Sandy Pond in Lincoln. Eaton says it is common. Multiple specimens in Thoreau herbarium, one undated from Stone Bridge that can be associated with *Journal* entry for September 2, 1856, other(s) dated without year May 14, May 22, and May 26 at railroad, and one with date or locality. There are about 18 references to this in Thoreau's *Journal*. On September 6, 1856 he expresses surprise at finding this at the stone bridge on the sand at water's edge near the great eddy, and goes on to say it is about the eleventh willow that he has distinguished and in the next sentence reflects on finding this a new and rare plant in Concord. On May 12, 1858 he notes it above the Assabet Spring. On March 11, 1861 he comments that Salix such as this one growing along the railroad causeway are growing from seed blown from the river meadows. Like Thoreau (and Pratt and Hosmer who never found it in Concord) and unlike Eaton (claiming that it is common in Concord), this author found this to be rare in Concord in the late 1970s and early 1980s. On September 1, 1981 this author found and collected it (but specimen

missing) near a Hanscom Air Base runway device beside a small boulder in a low field or swale that is cut from time to time north of Virginia Road. Voucher specimen in NEBC collected by Edward Hoar on July 20, 1858 (foliage) at North Branch [Assabet River] in edge of river overflowed swamp. Link to image.

Salix nigra (GM8: same; TH: same, including var. falcata, Salix purshiana) BLACK WILLOW

Pratt and Hosmer oddly do not list this. Eaton says it is common. Two specimens in Thoreau herbarium without date or locality and one collected in 1857 likely collected on July 7 of that year in Wheeler's meadow by Nashawtuc Hill from published and unpublished *Journal* passages. There are about 128 references to this in Thoreau's *Journal*. Eaton collected this on May 21, 1961 on a riverbank near Egg Rock (Arnold Arboretum specimen). Laurence E. Richardson collected this on May 23, 1964 on a bank of the Assabet River near Annursnack Brook (BEDF specimen). This author collected it on May 11 (staminate flowers) and June 15 (foliage), 1976 and February 17, 1979 (winter buds) at the Nashawtuc Bridge (BEDF specimen). Voucher specimen in Arnold Arboretum collected by Eaton on June 13, 1964 on a riverbank of the Sudbury River at the southeast end of Heath's Bridge. Link to image.

Salix pedicellaris (GM8: same, including var. hypoglauca; TH: same) BOG WILLOW

Pratt says this (as Salix myrtilloides) is rare, noting finding it only in a bog near the Lime Quarry [Estabrook Woods], and stating that it is probably in other cold bogs. Hosmer does not list this. Eaton calls it frequent along the river. Specimens in Thoreau herbarium dated May 23, 1857 and May 23 [no year] both off Holden's [Swamp], May 12, 1857 at railroad, July 23 [no year] at railroad and one undated at railroad. There are about 10 references to this in Thoreau's Journal. On June 5, 1857 he notes it in the vicinity of the Sudbury River off Holden's. On May 3, 1858 he refers to it by the railroad, and that same day in Holden Swamp with staminate flowers. On May 28, 1858 he mentions that it abounds in Great Meadows. On March 11, 1861 he comments that Salix such as this one growing along the railroad causeway are growing from seed blown from the river meadows. This author collected it on April 26, (staminate and pistillate flowers), on May 18 (fruit) and on August 19 (foliage), 1981 from Nut Meadow where it was scattered (BEDF specimen). This author also found a couple plants of this on the western edge of Crosby Pond. The places this author saw this in Concord are the last two places in the town where Arethusa bulbosa had been collected, and the place this author saw this willow in Lincoln, MA was where Arethusa still occurred at that time (early 1980s). Voucher specimen in NEBC collected by Edward Hoar on June 7, 1858 (pistillate flowers) in river meadow near Nine Acre Corner Bridge. Link to image.

Salix petiolaris (GM8: Salix gracilis, including var. textoris; TH: same, Salix rosmarinifolia) SLENDER WILLOW

Pratt does not list this. Hosmer lists it without comment. Eaton says it is common. Specimens in Thoreau herbarium collected on May 10, 1857 opposite Wheeler gate [residence of Samuel Greene Wheeler (1792-1865) near Elm Street bridge across Sudbury River], on "May 8" [1857] "2 rods w[est] of rock" [in Wheeler's Meadow] based on notation with specimen and unpublished passage in his *Journal* for this date, on August 25, 1857 without locality but likely the same Wheeler meadow locality based on an unpublished *Journal* passage, two by bath rock [likely in Sudbury River near Egg Rock] without date, on August 25, 1857 with no locality but at bath rock from unpublished *Journal* passages, on May 8 [no year] without locality, and two without date or locality. There are about five references to this in Thoreau's *Journal*. Laurence E. Richardson collected this on May 11 and

June 11, 1960 near the Assabet River (GH specimen). This author collected it on April 26 (flowers), May 10 (fruit) and June 7 (foliage), 1979 west of Lowell Road Bridge (BEDF specimen). Voucher specimen in NEBC collected by Eaton on May 18, 1935 in dry scrub in the Town Forest. Link to image.

Salix sericea (GM8: same; TH: same, Salix grisea) SILKY WILLOW

Pratt and Hosmer do not list this. Eaton says it is rather common. Specimens in Thoreau herbarium, two dated May 8 without year or locality but from published and unpublished *Journal* passages most likely in 1857 by a white maple [Acer saccharinum] along the Assabet River and one on August 25, 1857 without locality but also near the white maple of the Assabet River based on unpublished *Journal* passages. There are about 18 references to this in Thoreau's *Journal*. On May 10, 1978 this author found it past flowering in a low wet area close to the Assabet River on the south side not far from Egg Rock. This author collected it on April 28 (pistillate flowers), May 10 (fruit) and June 7, 1979 (foliage) in the Assabet River lowland north of Nashawtuc Hill (BEDF specimen). Harold St. John collected this on May 11, 1913 in thickets along the Sudbury River (NEBC specimen). Voucher specimen in NEBC collected by Edward Hoar on July 20-25, 1858 (foliage) at Egg Rock. Link to image.

**Santalaceae** (GM8: same + Loranthaceae; TH: same + Loranthaceae)

Arceuthobium pusillum (GM8: same; TH: not scientifically described until 1872) DWARF MISTLETOE

Pratt and Hosmer do not list this. Eaton says this is very rare. No specimen in Thoreau herbarium. No reference to it by name in Thoreau's Journal, but his entry for February 12, 1858 clearly refers to it: "About the ledum pond-hole [Ledum Swamp] there is an abundance of that abnormal growth of the spruce [Picea mariana]. Instead of a regular, free, and open growth, you have a multitude of slender branches crowded together, putting out from the summit or side of the stem and shooting up nearly perpendicularly, with dense, fine, wiry branchlets and fine needles, which have an impoverished look, altogether forming a broomlike mass [hence, the common name for the aspect of this parasitic plant, Witches' Broom], very much like a heath." In an article on the distribution of this plant in New England (Rhodora 33:92-101 (1931)) Eaton relates the first recognition of this in Concord by Ludlow Griscom and himself when visiting the Ledum Swamp in the summer of 1930. At that time, due to various wood-cutting and drainage operations, only six young Picea mariana trees remained at the bog, and only one of them carried this parasitic species. Later closer examination revealed that both sexes of this plant occurred on the one tree, which was exceptional, and that none of the other Picea mariana trees had any trace of it. Eaton in a later note (Rhodora 37:413-414 (1935)) recorded the demise in 1935 of the lone tree hosting this plant, as a result of further clearing by the land owner, and in spite of the sparing of the lone tree from cutting at Eaton's behest. Picea mariana still occurs at a number of locations in Concord as noted in this flora. Voucher specimen in NEBC collected by Eaton and Ludlow Griscom on September 29, 1930 on edge of small bog-hole [in Ledum Swamp] near Old Road to Nine Acre Corner, parasitic on Picea mariana. Link to image. (male plants)

Comandra umbellata subsp. umbellata (GM8: same; TH: same; Thesium umbellatum) BASTARD-TOADFLAX

Pratt and Eaton say it is common. Hosmer calls it very common. Specimens in Thoreau herbarium without date or locality. There are about 14 references to this in Thoreau's

*Journal.* Voucher specimen in GH collected by S. Boson on May 25, 1929 at Walden Pond. Link to image.

**Sapindaceae** (GM8: Sapindaceae + Aceraceae; TH: Sapindaceae (in part))

ACER CAMPESTRE (GM8: same; TH: not treated in the manuals used by Thoreau) HEDGE MAPLE

Pratt simply notes planted trees of this, only two in his time, one in front of Mrs. L. Keyes's near Monument St., and the other in front of his own house. Hosmer does not list this. Eaton notes it only as spontaneous from a single mature tree in a woodland plantation. No specimen in Thoreau herbarium or reference to this in his *Journal*. This author was unable to find this in the location where Eaton collected it, but collected it on May 9 (flowers) and July 5 (fruit and foliage), 1977 on Stow Street (BEDF specimen). Voucher specimen in NEBC collected by Eaton on July 22, 1935 in low ground in the Town Forest in the Hoar Plantation. Link to image.

ACER GINNALA (GM8: same; TH: not scientifically described until 1856, not treated in the manuals used by Thoreau)

### AMUR MAPLE

Pratt and Hosmer do not list this. Eaton says it is uncommon, found at five locations. No specimen in Thoreau herbarium and no reference to this in his *Journal*. This author saw it in Concord but neglected to record the specific location(s). Eaton collected this on July 16, 1957 on shoulder of causeway near Nashawtuc Bridge, on May 18, 1960 at edge of filled land at a swampy brook meadow at the rear of Middlesex Institute for Savings, on May 28, 1964 in a dry roadside thicket at Liberty Street, and on May 28, 1964 on moist bank of an old railroad cut near Monument Street on the south side of Ripley Hill (all NEBC specimens). Voucher specimen in NEBC collected by Eaton on June 29, 1938 in gravelly soil on the wooded hilltop of Ripley Hill. Link to image.

ACER NEGUNDO var. NEGUNDO (GM8: same; TH: Negundo aceroides) ASHLEAF MAPLE

Pratt notes it only in streets at the Fitchburg Depot. Hosmer lists it referring to it simply as a shade tree. Eaton says it is uncommon. No specimen in Thoreau herbarium or reference to this in his *Journal*. In the late 1970s and early 1980s this author saw it in the same place Pratt notes it, in the vicinity of the train depot on Thoreau Street. This author collected it on April 7, 1981 along Virginia Road, and on the same day along Lowell Road opposite the Star Market (BEDF specimens). In July 2015 Cole Winstanley found a few seedlings of this near the Union Turnpike Bridge over the Assabet River. Voucher specimen in NEBC collected by Eaton on August 17, 1935 in gravelly margin of woods near gateway to old entrance to [Fairyland] Pond in the Town Forest. Link to image.

Acer pensylvanicum (GM8: same; TH: same)

### STRIPED MAPLE

Pratt says this is rare, only a few trees at the northeast corner of Bateman's Pond found. Hosmer simply notes it at Bateman's Pond. Eaton also calls it rare, known from a single station. No specimen in Thoreau herbarium from Concord. There are about seven references to this in Thoreau's *Journal*, none of which are to occurrence in Concord. Eaton collected a seedling of this on July 22, 1935 on the edge of woods on the northern boundary of the Town Forest, and on July 25, 1957 on rocky outcropping with west exposure on the east side of Bateman's Pond where still plentiful (NEBC specimens). In addition to the Bateman Pond station where this author collected flowers on May 14, 1981 and fruit on June 25, 1983

(BEDF specimen), this author also saw this in Concord in the woods behind Pratt's residence (July 16, 1981, seedlings), on Ball's Hill (May 4, 1982, spreading well), a little of it near Kalmia Swamp (May 6, 1982), and escaped in the Town Forest (Hoar Plantation). Cherrie Corey (2014) reported that the small stand in the Town Forest survives. Cole Winstanley found a mature tree and a sapling below a cliff to the southwest of the Bemis Cliffs in August 2015. On June 12, 2016 Cherrie Corey and Cole Winstanley confirmed the persistence of this where this author saw it in 1982 near the Kalmia Swamps, at the base of the hill on the south side of the swamps. Voucher specimen in NEBC collected by Walter Deane on July 5, 1887 by Bateman's Pond. Link to image.

ACER PLATANOIDES (GM8: same; TH: same)

#### NORWAY MAPLE

Pratt lists this among three planted trees in town noting it is a rather extensively used shade tree. Hosmer does not list this. Eaton lists this only in an appendix as probably in Concord. No specimen in Thoreau herbarium or reference to this in his *Journal*. In 2021 Richard Forman reported three significant stands of this each about an acre in size on Concord Land Conservation Land Trust land north of Elm Street just before a small office building and a motel, just east of the Meriam House at Meriam's Corner, and on the slope of a hill about 250 meters northeast of the Meriam House paring lot. Voucher specimen in NEBC collected by this author on August 30, 1980 (fruit from tree 15 meters high) established along Lexington Road near the Lincoln line with numerous saplings. Link to image.

Acer rubrum var. rubrum (GM8: same; TH: same)

#### **RED MAPLE**

Pratt and Hosmer say this is common. Eaton calls it abundant. Specimens in Thoreau herbarium without date or locality except one dated simply May 9. There are about 215 references to this in Thoreau's *Journal*. Laurence E. Richardson collected this on May 17, 1960 in a swamp at sand pit road and Strawberry Hill Road (BEDF specimen). Eaton collected this on June 8, 1920 in rich woods on his wood lot at Goose Pond, and on April 30, 1921 in wet woods at Bateman's Pond (CONN specimens). David Potter collected this on April 5, 1925 at Sam Hoar's Pond [Fairyland Pond in Town Forest] (GH specimen). Voucher specimen in NEBC collected by Eaton on June 22, 1935 in swamp and low woods in the Town Forest where abundant. Link to image.

Acer saccharinum (GM8: same; TH: Acer dasycarpum)

#### SILVER MAPLE

Pratt simply gives habitat. Hosmer and Eaton say it is common. Specimens in Thoreau herbarium without date or locality. There are about 145 references to this in Thoreau's *Journal*. K. Shea and E. Blair collected this on August 16, 1977 in a thicket near a deep marsh area at Great Meadows National Wildlife Refuge (MASS specimen). This author collected it on February 17 (winter buds), on March 22 (staminate flowers), and on May 26 (foliage), 1979 at the Old Calf Pasture (BEDF specimen). Voucher specimen in NEBC collected by Edward Hoar on July 8, 1857 (foliage) along North Branch [Assabet River]. Link to image.

Acer saccharum (GM8: same; TH: Acer saccharinum - misapplied) SUGAR MAPLE

Pratt says this is rare as a native, extensively introduced as shade tree, growing naturally only in the woods opposite Nine Acre Corner School House. Hosmer lists this (as Acer saccharinum) without comment. Eaton calls it rare. Specimens in Thoreau herbarium without date or locality except an undated one from the property of Moses Prichard (1769-1865) on Main Street, and one dated June 2, 1857 without locality. There are about 82

references to this in Thoreau's *Journal*. He first mentions the native occurrence of this in Concord on September 17, 1851: "John W. Farrar tells of sugar maples behind [Darius] Miles's in the Corner." On September 24, 1851 he records finding it: "Found a grove of young sugar maples (Acer saccharinum) behind what was Miles's. How silently and yet startlingly the existence of these sugar maples was revealed to me, -- which I had thought not grew in my immediate neighborhood, -- when first I perceived the entire edges of its leaves and their obtuse sinuses." All his Journal references to the native occurrence of this in Concord are to this location in Conantum. On July 29, 1982 this author relocated this native grove known to Thoreau, Pratt and Hosmer, confirmed by the occurrence of other rare or uncommon plants (Triosteum aurantiacum, Hylodesmum glutinosum, Hylodesmum nudiflorum) this author found growing at the site noted there by Minot Pratt. Eaton in his Flora notes finding this at a site that he thought was Thoreau's site, but at a location on the other (west) side of Sudbury Road, no doubt persistent, planted trees. Cherrie Corey confirmed the continued existence of this grove at Thoreau's site in 2013. In September 2015 Cole Winstanley reported finding young trees in woods west of White Pond near the Sudbury line and west of the railroad tracks. Given that Triosteum and the two Hylodesmums were also found in this latter locale, it is reasonable that this is likely a second native station in Concord. In 2021 Richard Forman reported finding a grove of this about 250 meters south of the southwestern end of Bateman's Pond with a large number of saplings. Voucher specimen in NEBC collected by this author on September 6, 1982 in rich woods with Triosteum nearby on the west side of Conantum at the site of Pratt and Thoreau, a small grove of about seven mature trees, largest four feet four inches in circumference. Link to image.

ACER SPICATUM (GM8: same; TH: same)

## MOUNTAIN MAPLE

Pratt simply notes that he introduced this from Wachusett Mountain [Massachusetts]. Hosmer only mentions this at Pratt's Spring. Eaton does not list this. Specimens in Thoreau herbarium not from Concord. There are about seven references to this in Thoreau's Journal, none of which are to occurrence in Concord. On May 13, 1982, the day this author relocated Pratt's Spring, this author found it established there. Voucher specimen in NEBC and BEDF collected by this author on May 22, 1982 (flowers) at Pratt's Spring west of Punkatasset Hill, a number of shrub-like trees up to five meters high and numerous seedlings. Link to image.

ACER TATARICUM (GM8: not treated; TH: not treated in the manuals used by Thoreau) TATARIAN MAPLE

Pratt and Hosmer do not list this. Eaton simply notes this as a numerous colony of young trees, obviously spontaneous from a parent cultivated tree. No specimen in Thoreau herbarium or reference to this in his *Journal*. This author saw it in the late 1970s and early 1980s at the site where the voucher specimen was collected. Voucher specimen in NEBC collected by Laurence E. Richardson on July 23, 1962 at roadside and adjacent [Sudbury] river meadow about 100 meters west of Heath's Bridge and 5-10 meters south of the road, numerous colony of young trees 10-20 years old from a parent specimen near the gate of estate on opposite side of road [Sudbury Road]. Link to image.

**Sarraceniaceae** (GM8: same; TH: same)

Sarracenia purpurea subsp. purpurea (GM8: same; TH: same)

**COMMON PITCHER-PLANT** 

Pratt and Hosmer say this is common. Eaton calls it rather common. Specimens in Thoreau herbarium without date or locality. There are about 38 references to this in Thoreau's herbarium. In the late 1970s and early 1980s this was not hard to find in most of the sphagnum bogs in town and occasionally in sphagnous swamps, but not in river meadows as in Thoreau's time and until the 1930s, most likely due to water pollution in the 1930s. Cherrie Corey (2014) reported several colonies of this at Gowing's Swamp in 2013 with the colonies in the central open mat totaling 75-100 plants, and also in Heywood's Meadow. In December 2015 Cole Winstanley found an estimated 350-600 plants of this in the northern half of the black spruce swamp south of Laws Brook Road. Eaton found this on June 29, 1921 in a sphagnous meadow east of Nashawtuc Bridge. Voucher specimen in MASS collected on June 7, 1898 by George R. Lyman at the Sudbury River. Link to image.

Saxifragaceae (GM8: same (in part); TH: same (in part))

Chrysosplenium americanum (GM8: same; TH: same)

AMERICAN GOLDEN SAXIFRAGE

Pratt and Hosmer say this is common. Eaton calls it frequent. Specimens in Thoreau herbarium without date or locality. There are about 21 references to this in Thoreau's *Journal*. Voucher specimen in NEBC collected by Edward Hoar on April 15, 1858 with no particular locale within Concord given. <u>Link to image</u>.

Micranthes pensylvanica (GM8: Saxifraga pensylvanica; TH: Saxifraga pennsylvanica) SWAMP SAXIFRAGE

Pratt says this is common. Hosmer calls it very common. Eaton says it is frequent. Specimens in Thoreau herbarium without date or locality. There are about 13 references to this in Thoreau's *Journal*. Jarvis notes this near turnpike [Cambridge Turnpike]. Voucher specimen in NEBC collected by Eaton on June 11, 1932 in a boggy meadow [no locale]. Link to image. Micranthes virginiensis (GM8: Saxifraga virginiensis; TH: Saxifraga virginiensis, Saxifraga vernalis)

### **EARLY SAXIFRAGE**

Pratt simply notes this on rocks everywhere, the earliest flowering site being Conantum. Hosmer says this is very common. Eaton calls it infrequent. Specimens in Thoreau herbarium without date or locality. There are about 40 references to this in Thoreau's *Journal*. Eaton collected this on May 30, 1956 on a moist ledge at the lime quarries in Estabrook Woods (BEDF specimen). In the late 1970s and early 1980s this author saw this at Martha's Point, the Conantum Cliffs and Egg Rock. This is likely less common than formerly due to reforestation and development. Voucher specimen in NEBC collected by Edward Hoar on April 6 - 20, 1858 [no locale within Concord given]. Link to image.

**Scrophulariaceae** (GM8: same (in part); TH: same (in part))

Scrophularia lanceolata (GM8: same; TH: Scrophularia nodosa)

Pratt says this is rare, having seen only a single plant in Concord. Hosmer simply notes this near Mr. Pratt's (Monument Street) and at dump. Eaton calls it uncommon. No specimen in Thoreau herbarium or reference to this in his *Journal*. Voucher specimen in NEBC collected by Eaton on October 4, 1959 at abandoned dump off Laws Brook Road. <u>Link to image</u>.

VERBASCUM THAPSUS subsp. THAPSUS (GM8: same; TH: same) COMMON MULLEIN

Pratt, Hosmer and Eaton say this is common. Specimens in Thoreau herbarium without date or locality. There are about 47 references to this in his *Journal*. Laurence E. Richardson collected this on June 30, 1960 along Strawberry Hill Road near the Acton line (BEDF specimen). Voucher specimen in NEBC collected by Eaton on July 8, 1957 in sterile, disturbed soil at Clamshell Bluff. Link to image.

**Simaroubaceae** (GM8: same; TH: Rutaceae (in part))

AILANTHUS ALTISSIMA (GM8: same: TH: Ailanthus glandulosus)

TREE-OF-HEAVEN

Pratt does not list this. Hosmer lists it [for the Concord vicinity] without comment and with flowering dates only for 1900, 1901 and 1902. Eaton lists this only in an appendix as unlikely in Concord. No specimen in Thoreau herbarium. There are about three references to this in Thoreau's *Journal*, none of which are to wild occurrence in Concord. In addition to this author's voucher specimen this author also found a couple saplings of this along Lexington Road near the Lincoln line. In 2014 Cole Winstanley found this on the north shore of Walden Pond and at Pine Hill near Virginia Road. Voucher specimen in NEBC and BEDF collected by this author on June 21, 1981 at edge of Pratt Paper Birch field on the west side of Punkatasset Hill, a few medium-sized trees. Link to image.

## **Solanaceae** (GM8: same; TH: same)

ALKEKENGI OFFICINARUM (GM8: Physalis alkekengi; TH: not treated in the manuals used by Thoreau)

CHINESE-LANTERN

Pratt and Hosmer do not list this. Eaton says it is local. No specimen in Thoreau herbarium or reference to this in his *Journal*. Voucher specimen in NEBC collected by Eaton on October 5, 1957 in filled land at the edge of a shaded brook [Mill Brook] near Lowell Road where thoroughly naturalized. Link to image.

DATURA STRAMONIUM (GM8: same, including var. tatula; TH: same, Datura tatula) JIMSONWEED

Pratt does not list this. Hosmer simply notes it on Walden Road. Eaton says it is occasional. No specimen in Thoreau herbarium. There are about 13 references to this in Thoreau's *Journal*. Jarvis notes this near H. Cogwell's, and as Dracaena borealis at Caesar's in woods near strawberries. Laurence E. Richardson collected this on August 27, 1969 in recent roadside grading near Heath's Bridge (BEDF specimen). Voucher specimen in NEBC and BEDF collected by Eaton on September 20, 1961 in waste ground near piggery off Laws Brook Road where abundant. Link to image.

PETUNIA INTEGRIFOLIA (GM8: Petunia violacea; TH: not treated in the manuals used by Thoreau)

#### **VIOLET PETUNIA**

Pratt and Hosmer do not list this. Eaton says it is a casual escape from cultivation, occasionally persistent. No specimen in Thoreau herbarium or reference to this in his *Journal*. Voucher specimen in NEBC collected by Eaton on October 6, 1957 on sandy beach at south shore of White Pond. Link to image.

# PHYSALIS ANGULATA (GM8: same; TH: same)

Pratt, Hosmer and Eaton do not list this. No specimen in Thoreau herbarium or reference to it in his *Journal*. Voucher specimen in VT collected by Laurence E. Richardson (mistakenly as Physalis pruinosa) on September 11, 1973 along a roadside where luxuriant. <u>Link to image</u>.

Physalis heterophylla (GM8: same; TH: Physalis viscosa)

**CLAMMY GROUND-CHERRY** 

Pratt and Hosmer do not list this. Eaton says it is uncommon. Specimen in Thoreau herbarium with a question mark from a garden. No reference to this in his *Journal*. Voucher specimen in NEBC and BEDF collected by Eaton on August 5, 1921 in sterile, gravelly soil under Pinus rigida beside Fitchburg Railroad track. Link to image.

SOLANUM CAROLINENSE (GM8: same; TH: same)
HORSE-NETTLE

Pratt and Hosmer do not list this. Eaton says it is rare. No specimen in Thoreau herbarium or reference to this in his *Journal*. On July 30, 1982 this author found it in flower in the western corner of a playground field south of Riverdale Road. Voucher specimen in NEBC collected by Eaton on September 22, 1929 in open, sandy ground on plains eastward of White Pond. Link to image.

SOLANUM DULCAMARA (GM8: same; TH: same)

**CLIMBING NIGHTSHADE** 

Pratt simply gives habitat. Hosmer and Eaton say it is common. Specimen in Thoreau herbarium without date or locality. There are about eight references to this in Thoreau's *Journal*. Eaton collected this on July 20, 1957 at the edge of exsiccated pond-hole at Goose Pond (BEDF specimen). Voucher specimen in NEBC collected by Eaton on June 11, 1921 at brookside south of G.[eorge] F. R.[oot] swamp [Saw Mill Brook area of Crosby Pond]. <u>Link to image</u>.

Solanum emulans (GM8: Solanum americanum-misapplied; TH: Solanum nigrum-misapplied) EASTERN BLACK NIGHTSHADE

Pratt says this is rare, coming up as a weed in his garden and also found at Conantum. Hosmer lists this without comment. Eaton calls it infrequent, locally abundant as a weed. No specimen in Thoreau herbarium from Concord. There are about seven references to this in Thoreau's Journal. On September 21, 1856 he notes finding this for the first time in Concord by a rock near corydalis [Capnoides sempervirens] in fruit near or at the Fairhaven Cliffs. He notes finding in one week two new Concord plants that he had seen first abroad, an advantage he says of going abroad. On September 22, 1859 he mentions finding this at the Hunt cellar hole. Laurence E. Richardson collected this on September 14, 1960 at Radio [Tower] on Strawberry Hill Road (BEDF specimen). Voucher specimen in BEDF collected by Eaton on September 20, 1961 in waste ground near piggery off Laws Brook Road. Image not available.

**Ulmaceae** (GM8: same; TH: Urticaceae (in part))

Ulmus americana (GM8: same; TH: same)

AMERICAN ELM

Pratt says this is frequent. Hosmer and Eaton call it common, Eaton noting the extensive destruction of large trees due to the Dutch elm disease. Specimens in Thoreau herbarium without date or locality, and without date (but noted in his *Journal* on June 7, 1857) from small tree by Pratt's, whose front yard had a magnificent tree of this species near the road [Monument Street] that was nearly 200 years old in 1898 with a girth of 17 feet at five feet from the ground (Link to image). There are about 10 references specifically to this in

Thoreau's Journal, but the great majority of the approximately 343 references to "elm" in his Journal would be to this species. Eaton collected this on August 15, 1930 at the edge of a thicket on his woodlot near Goose Pond, and on June 7, 1935 in swamps in the Town Forest (both NEBC specimens). By the early 1980s virtually all of the large, majestic trees of this in Concord were gone due to the disease, but sprouts and small saplings were common. This author collected it on March 29 (flowers) and May 11 (fruit), 1981 and June 9, 1982 (foliage) from a medium-sized tree (about 20 meters high) at the edge of a river meadow at the entrance to the Old Calf Pasture boat landing off Lowell Road (BEDF specimen). Laurence E. Richardson collected this on April 17, 1960 at Spencer Brook (BEDF specimen). Voucher specimen in NEBC collected by Emile F. Williams on August 9, 1908 at Conantum. Link to image.

Ulmus rubra (GM8: same; TH: Ulmus fulva) SLIPPEY ELM

Pratt says this is rare, found only at Conantum. Hosmer simply notes it at Conantum. Eaton also calls it rare, known at a single station, perhaps extirpated, last collection of it in 1932. Specimen in Thoreau herbarium undated from Lee's Cliff. There are about 25 references to this in Thoreau's *Journal*. On June 6, 1853 he first notes this at Lee's Cliff. In unpublished notes Eaton reports that a single mature tree and many saplings occurred to his knowledge at this site as late as 1910 and that it might have been extinct there as of 1957. Eaton collected this on June 25, 1932 at ledge on Lee's Cliff, only several young trees or sprouts remaining (NEBC specimen). Voucher specimen in GH collected by Walter Deane on July 14, 1886 in rocky woods at Lee's Cliff. Link to image.

**Urticaceae** (GM8: same; TH: same (in part)) Boehmeria cylindrica (GM8: same; TH: same)

**FALSE NETTLE** 

Pratt simply notes habitat. Hosmer says this is common. Eaton calls it frequent. Specimens in Thoreau herbarium without date or locality. There are about six references to this in Thoreau's *Journal*. Jarvis notes this on July 31, 1834 at the side of the mill dam. Eaton collected this on July 29, 1920 at a rich, wooded roadside of Estabrook Road, and on July 9, 1961 in a river meadow at Great Meadows National Wildlife Refuge (BEDF specimens). Voucher specimen in NEBC collected by Edward Hoar on August 27, 1888 at Miss Prichard's river shore. Link to image.

Parietaria pensylvanica (GM8: same; TH: Parietaria pennsylvanica) PENNSYLVANIA PELLITORY

Pratt says this is common [??]. Hosmer does not list this. Eaton calls it is rare. Specimens in Thoreau herbarium without date or locality. There are about four references to this in Thoreau's *Journal*. On July 4, 1853 he records finding this in flower under the Ulmus rubra at Lee's Cliff in Conantum. All his other references are to this station. As of 1888 Concord was the only location for this in Middlesex County, MA. Eaton notes in his *Flora* (1974) that there were only two other recorded stations in eastern Massachusetts. This species is included in the list of plants prepared by Hosmer and published in *Rhodora* in 1899 (vol. 1, p. 171) said to have been introduced into Concord by Pratt that had not been found in recent years. However, this is not supported by Pratt's manuscript, or by the annotations in his copy of Gray's *Manual of Botany*, or by the fact that Thoreau discovered it on his own without any mention of Pratt (with whom he shared botanical information). On July 21, 1982 this author photographed this at the Conantum Cliffs. Voucher specimen in NEBC collected by

Eaton on August 1, 1957 in gravelly leaf mold on a flattish ledge in dense, shaded woods between Martha's Point and Conantum Cliff [Conantum Cliffs, see this author's Thoreau *Place Names*]. Link to image.

Pilea pumila (GM8: same: TH: same)

**CLEARWEED** 

Pratt simply notes habitat. Hosmer does not list this. Eaton says this is uncommon in natural sites, but common otherwise, often abundant as a garden weed. Specimen in Thoreau herbarium without date collected at J.[ames] P. Brown's. There are about seven references to this in Thoreau's Journal. Thoreau's herbarium specimen corresponds to his Journal entries for July 17, 1856, where he notes finding this not in flower at J.[ames] P. Brown's moraine pasture by Water Dock Meadow, and a little later in flower on July 28, 1856 at J.[ames] P. Brown's oak. On October 4, 1858 he notes finding this in the shade of the [Leaning] Hemlocks along the Assabet River. On September 22, 1859 he mentions finding it very rank at the Hunt cellar hole. Eaton found this on August 1, 1957 along runnel from a springhead near Martha's Point. Laurence E. Richardson on September 23, 1960 at Spencer Brook at Newbury's property (BEDF specimen). Voucher specimen in GH collected by Emile F. Williams on September 27, 1896 under a boathouse. Link to image.

Urtica dioica subsp. gracilis (GM8: Urtica procera; TH: Urtica gracilis) WILD STINGING NETTLE

Pratt says this is not uncommon. Hosmer and Eaton call it common. Specimens identified as this by Walter Kittredge without date or locality in Thoreau herbarium. There are about five references to this in Thoreau's Journal, and about three references to "Urtica dioica" are likely to this also. Edward Hoar collected this on September 11, 1888 on damp shore of North Branch of Concord River [i.e., Assabet River] near Chamberlayne's (NEBC specimen). Eaton collected this on August 12, 1958 near the mouth of Spencer Brook [at the Assabet River] (BEDF specimen). Voucher specimen at the University of New Hampshire collected by Laurence E. Richardson on August 14, 1969 along an old railroad track. Link to image.

## **Verbenaceae** (GM8: same: TH: same (in part))

VERBENA BRACTEATA (GM8: same; TH: not treated in the manuals used by Thoreau) Pratt and Hosmer do not list this. Eaton says it is rare. No specimen in Thoreau herbarium or reference to this in his *Journal*. Voucher specimen in NEBC and BEDF collected by Eaton on September 16, 1961 on a sandy cart-road at the southerly extension of Ball's Hill Road. Link to image.

Verbena hastata (GM8: same; TH: same)

SIMPLER'S-JOY

Pratt, Hosmer and Eaton say this is common. Specimen in Thoreau herbarium without date or locality. There are about 16 references to this in Thoreau's Journal. C.B. Hellquist collected this on August 4, 1970 along Route 2 near the Sudbury River (MASS specimen). K. Shea and E. Blair collected this on August 16, 1977 in thickets surrounding a deep marsh area at the Great Meadows National Wildlife Refuge (CONN and MASS specimens). Voucher specimen in NEBC collected by Edward Hoar on August 22, 1857 on the road to Bedford. Link to image.

VERBENA STRICTA (GM8: same; TH: same)

HOARY VERVAIN

Pratt and Hosmer do not list this. Eaton says it is rare. No specimen in Thoreau herbarium or reference to this in his *Journal*. Voucher specimen in NEBC and BEDF collected by Eaton

on July 19, 1934 in a sandy field at Clamshell Bluff where not scarce [but, in unpublished notes, he reports only a few plants still survived in 1957]. Link to image.

Verbena urticifolia (GM8: same; TH: same)

WHITE VERVAIN

Pratt, Hosmer and Eaton say this is common. Specimen in Thoreau herbarium without date or locality. There are about nine references to this in Thoreau's *Journal*. Voucher specimen in NEBC collected by Edward Hoar on August 21, 1857 along Main Street. <u>Link to image</u>.

## **Violaceae** (GM8: same; TH: same)

Viola blanda (GM8: same + Viola incognita, including var. forbesii; TH: same (in part)) SWEET WHITE VIOLET

Pratt says this is abundant, but would include Viola macloskeyi. Hosmer calls it common, but would include Viola macloskeyi. Eaton says it is frequent. Specimens in Thoreau without date or locality labeled as this have determined by this author to be Viola macloskeyi. There are about 19 references to this in Thoreau's *Journal*, but many of these are likely to be to Viola macloskeyi. Eaton collected this (as Viola incognita var. forbesii) on August 23, 1957 in rich, low woods north of Punkatasset Hill (BEDF specimen), and on June 28, 1959 in rich low woods on well-drained land at edge of swamp on the east side of Sleepy Hollow Cemetery (NEBC specimen). Voucher specimen in NEBC collected by Eaton on October 10, 1957 in glade in low woods near sphagnum bog [Gowing's Swamp] northwest of Merriam's Corner. Link to image.

Viola brittoniana (GM8: same; TH: not scientifically described until 1898, would have been included under Viola palmata)

### **COASTAL VIOLET**

Pratt simply gives habitat. Hosmer says this is common. Eaton calls it occasional along the river meadows or near normal high-water line. Specimens in Thoreau herbarium without date or locality. There are about nine references to this in Thoreau's Journal. On May 30, 1852 he notes it in Hubbard's meadow near Sarracenia purpurea. On May 17, 1853 he mentions it in flower in a meadow near the island [Egg Rock]. On May 21, 1855 in the vicinity of the Island [Egg Rock] he refers it in flower and as "pretty common." Jarvis notes this as Viola palmata in back of Colburn's near [Cambridge] turnpike. Eaton collected this on July 19, 1937 in a moist peaty meadow above high water line southwest of Punkatasset Hill (BEDF specimen). Laurence E. Richardson collected this on May 30, 1961 at Carr Road (BEDF specimen). On June 24, 1981 this author found it at the south-facing foot of Ball's Hill in sandy soil along the path by the river where Bruce A. Sorrie collected it with this author (NEBC specimen), about 40 blossoms in peak of flowering here on May 9, 1982, and more than 50 blossoms here on May 19, 1983. On May 11, 1982 this author saw six plants at Great Meadows along the railroad bed north of the entrance, 18 blossoms here on June 3, 1982. This author also saw a small quantity of it at the end of or just beyond the end of Carr Road toward the Concord River. In 2016 Cole Winstanley reported that there was quite a large colony of this in the field at the Old Calf Pasture (which is across from Egg Rock) and smaller colonies in the woods at the nearby riverbank. Voucher specimen in NEBC collected by Eaton on May 31, 1921 in an open field at the edge of a river meadow of the Sudbury River near Jenny Dugan Brook. Link to image.

Viola cucullata (GM8: same; TH: same (in part))
MARSH BLUE VIOLET

Pratt says this is very abundant, but including Viola sororia. Hosmer and Eaton call it common, with Hosmer including Viola sororia. Specimens in Thoreau herbarium without date or locality. There are about 29 references to this in Thoreau's *Journal* some of which would be to Viola sororia. Eaton collected this on May 11, 1958 in soggy moss of a Maple swamp opposite Heath Farm at Sudbury Road (BEDF specimen). Voucher specimen in NEBC collected by Eaton on May 25, 1956 in a rich moist glade [no particular locale within Concord given]. Link to image.

Viola labradorica (GM8: Viola conspersa; TH: Viola muhlenbergii, Viola debilis)
AMERICAN DOG VIOLET

Pratt says this is rather common. Hosmer calls this common (under the name Viola canina var. muhlenbergii). Eaton says it is uncommon. Specimens in Thoreau herbarium without date or locality. There are about 11 references to this in Thoreau's *Journal*. Eaton collected this on May 7, 1955 in the Chamberlin Woods (BEDF specimen). Laurence E. Richardson collected this (as Viola conspersa) on May 17, 1966 in springy ground of an older thicket at the foot of the south side of Annursnack Hill (BEDF specimen). On May 18, 1980 this authjor found it in flower in the vicinity of Annursnack Hill. Voucher specimen in NEBC collected by Eaton (as Viola conspersa) on May 31, 1921 on rich, low ground at the edge of woods along the 2<sup>nd</sup> hole of the Concord Country Club. Link to image.

Viola lanceolata (GM8: same; TH: same)

LANCE-LEAVED VIOLET

Pratt, Hosmer and Eaton say this is common. Specimens in Thoreau herbarium without date or locality. There are about 16 references to this in Thoreau's *Journal*. M.B.L. Bradford collected this on September 21, 1888 at Great Meadows at the Ox Bow (NEBC specimen). George R. Lyman collected this on June 7, 1898 at Walden Pond (MASS specimen). Eaton collected this on May 21, 1922 in a wet meadow at the Harry Keefe farm, and on September 5, 1957 on a wet, sandy beach at the shore of Walden Pond (BEDF specimens). Voucher specimen in VT collected by William D. Countryman, Laurence E. Richardson and Eaton on October 7, 1967 on the north bank of the Sudbury River at Nashawtuc Bridge where common. Link to image.

Viola macloskeyi (GM8: Viola pallens; TH: Viola blanda (in part))
NORTHERN WHITE VIOLET

Pratt says this is abundant, including Viola blanda. Hosmer calls it common, including Viola blanda. Eaton says it is common. Specimens in Thoreau herbarium undated and without locality labeled by him as Viola blanda this author has determined to be this species. There are about 19 references to this in Thoreau's *Journal* under the name Viola blanda, but most or all of these are likely to be to Viola macloskeyi. Eaton collected this on April 30, 1922 in Helsher's Pasture, and on July 25, 1957 in a sphagnous opening along the shore of Bateman's Pond (both BEDF specimens). Voucher specimen in NEBC collected by Eaton July 31, 1958 at the base of a rotten stump in low, sphagnous woods with no particular locale within Concord given. Link to image.

Viola pedata var. pedata (GM8: same, including var. lineariloba; TH: same)
BIRD-FOOT VIOLET

Pratt says this is abundant in dry fields. Hosmer calls it common. Eaton says it is frequent. Specimens in Thoreau herbarium without date or locality. There are about 50 references to this in Thoreau's *Journal*. S. Boson collected this on May 25, 1929 at Walden Pond (GH specimen). John and Charlotte Reeder collected this on June 9, 1946 just west of the Boston & Maine Railroad tracks near Walden Pond (Yale University specimen). Eaton collected this

on May 11, 1930 in a sandy wood road at Goose Pond (BEDF specimen). On May 27, 2014 Cherrie Corey and her students found this in peak flowering along the trail heading north from Well Meadow Head where this author had seen it when lying in Concord. Voucher specimen in NEBC collected by Fred G. Floyd on August 17, 1902 in an old wood road near Ministerial Swamp. Link to image.

Viola primulifolia var. primulifolia (GM8: same, including var. acuta; TH: same) Pratt says this is not common, noting it at Nine Acre Corner. Hosmer does not list this. Eaton calls it uncommon. No specimen in Thoreau herbarium and no reference to this in his *Journal*. George R. Lyman collected this on June 7, 1898 at the Sudbury River [MASS specimen]. On May 20, 1982 this author photographed a few plants of this in flower in the middle of the railroad bed north of the Rhododendron prinophyllum site approximately west of the Dakin's Brook outlet on the Assabet River. Voucher specimen in NEBC collected by Eaton on August 7, 1957 in a mossy glade on the east side of Bateman's Pond. Link to image.

Viola pubescens var. pubescens (GM8: same; TH: same, including var. eriocarpa) DOWNY YELLOW VIOLET

Pratt simply notes that this is found chiefly in the northern part of town in shady places, mentioning it on the north side of Punkatasset Hill. Hosmer says this is rather common, referring to it at Nashawtuc Hill and the Lime Kiln. Eaton calls it rare. Specimens in Thoreau herbarium without date or locality. There are about 10 references to this or possibly Viola pubescens var. scabriuscula in Thoreau's *Journal*. Eaton collected this on May 15, 1955 in oak woods [Chamberlin Woods southeast of Bateman's Pond] east of Lowell Road opposite the old Worthley farm [1227 Lowell Road] (NEBC specimen). Laurence E. Richardson collected this on May 22, 1960 on the north side of Annursnack Hill (BEDF specimen). Voucher specimen in NEBC collected by Eaton on May 21, 1922 in rich pine woods in a pine grove at the Old Golf Club [on the northwest side of Nashawtuc Hill]. Link to image.

Viola pubescens var. scabriuscula (GM8: Viola pensylvanica var. leiocarpa; TH: same) SMOOTH YELLOW VIOLET

Pratt and Hosmer do not list this. Eaton lists this only in an appendix as unlikely in Concord. No specimen in Thoreau herbarium. There are about 10 references to Viola pubescens var. pubescens or possibly this in Thoreau's *Journal*. Voucher specimen in NEBC and BEDF collected by this author on May 8 (flowers) and May 30 (fruit), 1981 in damp, rich woods along a trail on the southern slope of Hubbard's Hill in the Estabrook Woods, about 100 plants. Link to image.

Viola sagittata var. ovata (GM8: Viola fimbriatula; TH: same, Viola ovata)
Pratt simply notes habitat. Hosmer and Eaton say it is common. Specimens in Thoreau herbarium without date or locality. There are about 39 references to this in Thoreau's *Journal*. George G. Kennedy collected this on April 29, 1912 on a shore of Walden Pond (GH specimen). Eaton collected this (as Viola fimbriatula) on September 5, 1957 in sandy, sterile soil of an open wood road west of Fairhaven Hill (BEDF specimen). Voucher specimen in NEBC collected by Eaton (as Viola fimbriatula) on May 30, 1956 along the dryish wood road, Estabrook Road. Link to image.

Viola sororia (GM8: same, Viola septentrionalis; TH: Viola villosa, Viola cucullata (in part)) COMMON BLUE VIOLET

Pratt and Hosmer do not list this, but probably included it under Viola cucullata. Eaton says this is common. No specimen in Thoreau herbarium. There are about 29 references to Viola cucullata in Thoreau's *Journal* some of which would be to Viola sororia. Eaton collected this (as Viola septentrionalis) on May 30, 1956 on a roadside bank along a wood road,

Estabrook Road (BEDF specimen), on July 31, 1958 (as misidentified Viola affinis) in a low, sphagnous wooded swamp west of Spencer Brook near wood road leading to Strawberry Hill Road (NEBC specimen), and on May 21, 1961 in a wet, ungrazed pasture near the edge of a river meadow north of Jenny Dugan Brook (NEBC specimen). Voucher specimen in NEBC collected by Eaton (as Viola septentrionalis) on May 28, 1961 in low open ground at edge of woods southwest of Punkatasset Hill. Link to image.

# Vitaceae (GM8: same; TH: same)

AMPELOPSIS GLANDULOSA (GM8: Ampelopsis brevipedunculata; TH: not treated in the manuals used by Thoreau)

Pratt and Hosmer do not list this. Eaton says it is occasional. No specimen in Thoreau's herbarium or reference to this in his *Journal*. Voucher specimen in NEBC collected by Eaton on September 13, 1957 in rocky woods at Martha's Point where well-established. <u>Link to image</u>.

Parthenocissus quinquefolia (GM8: same; TH: Ampelopsis quinquefolia) VIRGINIA-CREEPER

Pratt says this is common. Hosmer calls it very common. Eaton says it is common. Specimen in Thoreau herbarium without date or locality. There are about 28 references to this in Thoreau's *Journal*, but would include Parthenocissus vitacea not distinguished in his time. Jarvis notes this on July 8, 1835 on island near Capt. Hunt's. Voucher specimen in NEBC collected by Eaton on June 7, 1935 in a swamp in the Town Forest. <u>Link to image</u>.

Vitis aestivalis (GM8: same, including var. argentifolia and var. bicolor; TH: same, including var. sinuata)

### SUMMER GRAPE

Pratt notes that he has found this only under the Cliffs on the south side of Fairhaven Hill. Hosmer simply mentions this at Conantum and other unnamed places. Eaton says it is infrequent, occurring mostly on the Marlboro Formation [circumneutral or basic soil]. Specimens in Thoreau herbarium collected on August 3, 1856 at Conantum [identified by this author]; at "pathside" which can be dated as July 21, 1857 near Wheeler's meadow near Nashawtuc Hill based on an unpublished Journal entry of that date; "below rocks" which can also be dated as July 21, 1857 at Wheeler's meadow based on an unpublished Journal passage of that date; and at Bittern Cliff [Martha's Point] on July 21, 1857 based on an unpublished *Journal* passage of that date. Three undated specimens without locality in Thoreau's herbarium are labeled simply "Vitis sinuate." There are about three references to this in Thoreau's published Journal. On September 29, 1856 he mentions this while at Grape Cliff [a cliff just beyond Fairhaven Cliffs]. Eaton collected this on September 18, 1957 in rocky woods on the west side of Garfield Road [Conantum] (BEDF specimen). In unpublished notes Eaton records finding this at Martha's Point on September 14, 1958. Voucher specimen in NEBC collected by Edward Hoar in August 1879 at Conantum Cliff [Martha's Point]. Link to image.

Vitis labrusca (GM8: same; TH: same)

### FOX GRAPE

Pratt, Hosmer and Eaton say this is common. Specimen in Thoreau herbarium undated collected at [Daniel] Shattuck's barn in Merrick's Pasture [which included today's Old Calf Pasture]. Also, two undated specimens identified by Walter Kittredge as this species in Thoreau herbarium labeled simply "V. Musketaquid" and "mine" can be associated with his *Journal* entry of September 16, 1852 in which he coins this name, and in his essay on Wild

Fruits notes that he transplanted it to the family garden. There are about three references to this in Thoreau's *Journal*, but the majority of the 151 references to "grape" would also refer to this species. Voucher specimen in NEBC collected by Eaton on June 7, 1935 in low ground near the pond [Fairyland Pond] of the Town Forest. <u>Link to image</u>.

Vitis riparia (GM8: same; TH: Vitis cordifolia var. riparia) RIVERBANK GRAPE

Pratt simply notes this at the Cliffs of Fairhaven Hill and at Conantum. Hosmer lists this without comment. Eaton says it is rare. No specimen in Thoreau herbarium from Concord. There are about three references to this in Thoreau's *Journal*, all referring to its occurrence in Brattleboro, VT where his herbarium specimen was collected. In the late 1970s and early 1980s this author found it becoming rather common, finding it along Williams Road and other places. Voucher specimen in NEBC collected by Eaton on August 11, 1963 at the edge of woods on a roadside embankment at the intersection of the Cambridge Turnpike and Route 2 [Crosby Corner]. Link to image.

# Appendix A - Excluded records

Carya laciniosa – collected by Eaton from an old tree near the residence of Ralph W. Emerson, specimen formerly in NEBC but removed by Eaton as most likely planted and excluded from his *Flora*; the record included in Frank Seymour's *The Flora of New England*  $2^{nd}$  ed. and Arthur Haines' *Flora Novae Angliae*.

Cerastium arvense - CONN specimen collected by Leslie J. Mehrhoff on July 4, 2009 in woods north of the Thoreau Institute building is in Lincoln, MA and not in Concord as given on the label.

Crataegus monogyna - GH specimen collected by Thoreau at Ripley Hill/Poplar Hill in Concord was only a single tree of this commonly planted species (See *Journal* entry for June 12, 1855 and reference to Crataegus oxyacantha) and is not accepted as a wild occurrence.

Cystopteris bulbifera – NEBC undated specimen collected by Hosmer is excluded here as a temporaririly persistent introduction of Pratt, excluded also by Eaton from his *Flora*.

Dryopteris goldiana – NEBC undated specimen collected by Hosmer is excluded here as a temporarily persistent introduction of Pratt, excluded also by Eaton from his *Flora*.

Eragrostis frankii - NEBC specimen collected by William Brace on July 14, 1998 beside or close to the driveway of his residence, not in the wild.

Eragrostis pilosa – NEBC specimen collected by William Brace on August 19, 1997 beside or close to the driveway of his residence, not in the wild.

Homalosorus pycnocarpos (Athyrium pycnocarpon) – NEBC specimen undated collected by Herbert W. Hosmer (or from his herbarium collected by someone else) excluded here as a temporarily persistent introduction of Pratt, excluded also by Eaton from his *Flora*.

Hottonia inflata - NEBC specimen collected by Eaton on July 2, 1960 in the bog garden (Kalmia Swamp) behind a residence, a single plant that did not reproduce, excluded here and by Eaton from his *Flora* as a transient waif.

Impatiens pallida – Two undated NEBC specimens collected by Hosmer are excluded here as temporarily persisten introductions of Pratt, excluded also by Eaton in his *Flora*.

Ipomoea purpurea (Ipomoea hirsutula) - NEBC specimen collected by Edward Hoar on August 20, 1858 was collected in a garden, and the two GH specimens collected by Emile F. Wiliams on August 27, 1908 were collected in an asparsagus field. Eaton also excludes this species from his *Flora*.

Mitella diphylla – NEBC specimen undated collected by Hosmer is excluded here as a temporarily persistent introduction of Pratt, excluded also by Eaton from his *Flora*.

Opuntia humifusa - NEBC specimen collected by Eaton on August 6, 1958 from a thriving colony on a granite outcrop near Pratt's pasture is presumed by Eaton to be a persistent Pratt introduction and is excluded by Eaton from his *Flora*.

Pistia stratiotes - GH specimen collected once on August 15, 1970 in the Concord River in Concord, a tropical species not known to survive temperate zone winters, likely dumped into the river. Eaton does not include his in his *Flora*.

Senecio suaveolens (Cacalia suaveolens) - Thoreau's specimen in GH lacks collection data but his *Journal* enty of October 23, 1855 indicates that he found this as a "tall weed in Mrs. Brook's yard." Eaton does not include his in his *Flora*.

Sonchus oleraceus - GH specimen collected by David Potter on October 1, 1931, and Thoreau's specimen in GH lacking collection data, but his *Journal* entry of August 24, 1852 indicates he found this in Ralph W. Emerson' garden. Eaton also excludes these from his *Flora*.

Tiarella cordifolia – NEBC specimen undated collected by Hosmer is excluded here as a temporarily persistent introduction of Pratt, excluded also by Eaton from his *Flora*.

Viburnum lantanoides (Viburnum alnifolium) – NEBC specimen collected by A.E. Hoyle in May 1901 from "Concord, Mass. or vicinity" is too vague to treat as a voucher for Concord for this species. Eaton also excludes this from his *Flora*.

## Appendix B -- List of species Minot Pratt introduced into Concord

This list is based on Pratt's manuscript of the "Plants of Concord" and marginal annotations in his personal copy of Gray's Manual of Botany. Additional introduced species have been attributed to Pratt and are listed separately at the end, but these are questionable. Many of the plants are ones Pratt set out in the vicinity of his residence on Monument Street near Punkatasset Hill. At least 24 of Pratt's 114 introductions are known to have survived into the late 20<sup>th</sup> century.

These are denoted below with an asterisk (\*). A status report of the Pratt introductions was prepared by Hosmer and published in *Rhodora* (1:168-172 (1899)). The lists in that article include species not indicated by Pratt to have been introduced by him and omit others that Pratt did acknowledge introducing. Lastly, there are a number of introduced species not acknowledged by Pratt that have been found in Concord only in the vicinity of the Pratt residence. The occurrence of these is most likely due to the operation of Concord Nurseries on the Pratt property, established on the Pratt homestead by Frederick G. Pratt (1831-1905), Minot Pratt's oldest son, and continued after Frederick's death until at least 1914 by Frederick's son, Henry Minot Pratt (1853-1925). The plant names listed below are the modern names of the species.

Abies grandis -- from Bussey Arboretum (Jamaica Plain, MA)

Abies nordmanniana -- from Bussey Arboretum (Jamaica Plain, MA)

Abutilon theophrasti\* -- from Michigan

Acer negundo\* -- origin not given

Acer spicatum\* -- from Wachusett Mountain (Massachusetts)

Adlumia fungosa\* -- origin not given

Agalinis maritima -- from Breed's island, Boston Harbor

Agastache foeniculum -- from Wisconsin

Ageratina altissima -- from Mt. Wachusett (Massachusetts)

Asarum canadense\* -- from Vermont

Asclepias verticillata -- from Waltham, MA

Asplenium rhizophyllum\* -- from Vermont

Asplenium ruta-muraria -- from Vermont

Boltonia asteroides -- from Pennsylvania

Camassia scilloides -- from Illinois

Campanula rotundifolia -- from Newburyport, MA

Caulophyllum thalictroides\* -- from Mt. Wachusett (Massachusetts)

Chamaecrista fasciculata -- from neighborhood of Boston. MA

Claytonia caroliniana -- from Vermont

Claytonia virginica\* -- from Indiana

Convallaria majalis\* -- from his garden

Corema conradii -- from Plymouth, MA

Cryptogramma stelleri -- from Vermont

Cypripedium arietinum -- from Vermont

Cypripedium parviflorum var. parviflorum or var. makasin-- from Botanical Garden, Cambridge, MA

Cypripedium parviflorum var. pubescens -- from Botanical Garden, Cambridge, MA

Cypripedium reginae -- from South Conway, NH and from Botanical Garden, Cambridge, MA

Cystopteris bulbifera -- from Vermont

Dalea purpurea -- from Michigan and Illinois

Dicentra cucullaria\* -- from the West

Dirca palustris -- from Vermont

Dodecatheon meadia -- from the West.

Draba arabisans -- from Vermont

Dryopteris clintoniana -- from Vermont mountains

Dryopteris goldiana -- from Vermont

Echinocystis lobata\* -- Jackson, NH

Enemion biternatum -- from Michigan

Erythronium americanum\* -- origin not given

Euthamia caroliniana -- from Weymouth, MA

Fallopia ciliinodis -- from Mt. Wachusett (Massachusetts)

Galearis spectabilis -- from Vermont

Geum triflorum -- from Wisconsin

Goodyera repens var. ophioides -- from Mt. Wachusett (Massachusetts)

Harrimanella hypnoides -- from Chocorua (New Hampshire)

Helenium autumnale -- from Illinois

Hepatica acutiloba -- from Vermont

Houstonia longifolia -- from Lexington, MA

Hydrophyllum virginianum -- from Vermont

Laportea canadensis -- from Mt. Wachusett (Massachusetts)

Liatris spicata -- from Illinois

Lithospermum incisum -- from Illinois

Lobelia kalmii -- from Vermont

Lobelia siphilitca -- from Illinois

Maianthemum stellatum\* -- from Breed's Island, Boston Harbor

Malaxis monophyllos var. brachypoda -- from Jackson, NH

Mertensia virginica -- from Illinois

Microstylis unifolia -- from Jackson, NH

Mitella diphylla -- from Vermont

Mitella nuda -- from Vermont

Monarda fistulosa\* -- from Illinois

Osmorhiza claytonii -- from Chelsea, MA

Osmorhiza longistylis -- from Mt. Wachusett (Massachusetts)

Oxalis montana\* -- from Mt. Wachusett (Massachusetts)

Panax quinquefolius -- from Vermont

Periploca graeca -- origin not given

Persicaria virginiana -- from Dorset, VT

Phragmites australis\* -- from New York

Phryma leptostachya\* -- from Mt. Wachusett (Massachusetts)

Picea engelmannii -- from Bussey Arboretum (Jamaica Plain, MA)

Pinus banksiana -- from Bussey Arboretum (Jamaica Plain, MA)

Pinus cembra -- origin not given

Pinus nigra -- origin not given

Pinus pinea -- origin not given

Pinus ponderosa -- from Bussey Arboretum (Jamaica Plain, MA)

Pinus pungens -- from Bussey Arboretum (Jamaica Plain, MA)

Pinus sylvestris\* -- origin not given

Pinus virginiana -- from Bussey Arboretum (Jamaica Plain, MA)

Platanthera dilatata -- origin not given

Platanthera obtusata -- from Mt. Wachusett (Massachusetts)

Polystichum braunii -- from Vermont

Populus alba -- origin not given

Potentilla robbinsiana -- from the White Mountains (New Hampshire)

Pseudotsuga menziesii -- from Bussey Arboretum (Jamaica Plain, MA)

Pyrola minor - Conway, NH

Quercus peduncularis -- origin not given

Ribes cynosbati -- from South Conway, NH

Rubus repens -- from Vermont and Mt. Wachusett (Massachusetts)

Sabbatia kennedyana -- from Weymouth, MA

Sambucus racemosa\* -- from Mt. Wachusett (Massachusetts)

Sibbaldiopsis tridentata -- from the White Mountains (New Hampshire) at elevation about 2500 feet

Silphium laciniatum -- from Illinois

Silphium terebinthinaceum -- from Illinois

Solidago ptarmicoides -- from Vermont

Solidago squarrosa -- from Vermont

Streptopus amplexifolius -- from Mt. Wachusett (Massachusetts)

Symphyotrichum oolentangiense -- from Illinois

Tiarella cordifolia -- from Vermont

Trillium erectum -- from Mt. Wachusett (Massachusetts)

Trillium grandiflorum\* -- from Botanical Garden, Cambridge, MA

Trillium nivale -- from Illinois

Trillium recurvatum -- from Wisconsin

Trillium sessile -- from the West

Tussilago farfara\* -- from Vermont

Uvularia grandiflora -- from Vermont

Vaccinium vitis-idaea -- from White Mountains (New Hampshire)

Viburnum opulus var. americanum\* -- from Vermont

Viola canadensis -- origin not given

Viola cornuta -- from Europe

Viola rostrata -- origin not given

Viola rotundifolia -- from Vermont

Viola selkirkii -- from Vermont

Viola striata -- origin not given

Woodwardia areolata\* -- from Vermont [an obvious error as this is not known from Vermont] Pratt's copy of Gray's *Manual of Botany* simply indicates it as introduced without giving origin.

Xanthorhiza simplicissima\* -- from a single plant found at roadside opposite Pratt residence

Species claimed by Hosmer to be Pratt introductions but not acknowledged by Pratt:

Abies balsamea

Bidens trichosperma

Clinopodium vulgare

Iris cristata

Onopordum acanthium

Parietaria pennsylvanica

Polygonatum biflorum var. commutatum

Ranunculus pensylvanicus

Symphytum officinale

Thuja occidentalis

Marsilea quadrifolia is reliably reported by his contemporary, Edward Hoar, to have been introduced by Minot Pratt. But neither Pratt himself nor Hosmer acknowledged this.

# APPENDIX C: -- Species Listed by Richard J. Eaton excluded in this flora

Below is a list of plant species and varieties included in A Flora of Concord (1973) of Richard J. Eaton (see References) that are not included in this online flora. Species and varieties with old names that have been included (synonymized) under modern names are noted in the main text above when giving the Gray's Manual of Botany 8<sup>th</sup> ed. (GM8) equivalents and are not listed in this appendix. The plant names listed below are the names used by Eaton. Names in the explanations below are the modern names.

Amaranthus cannabinus (Acnida cannabina) -- voucher has been identified by a specialist in 1952 as Amaranthus tuberculatus.

Anthoxanthum puelii -- re-identified as Anthoxanthum odoratum by H.E. Ahles in 1975.

Apocynum medium -- now considered a hybrid, Apocynum x floribundum (Apocynum androsaemifolium X Apocynum cannabinum).

Aristida purpurascens -- voucher specimen not found.

Betula papyrifera var. cordifolia -- now considered a full species (Betula cordifolia), its known range in New England is well north and west of Concord. Eaton acknowledges some doubt in the identification of his station for this as there was no fruiting material available.

Bidens vulgata -- the only voucher specimen collected by Eaton has been determined to be Bidens frondosa.

Brassica kaber var. pinnatifida -- no known voucher specimen from Concord. Eaton provides no frequency of occurrence information or voucher specimen citation. Pratt says it is a troublesome weed in some fields. This is now known as Sinapis arvensis, and being widely distributed in New England very likely occurs in Concord.

Callitriche palustris -- voucher specimen of Eaton is Callitriche heterophylla.

Carex incomperta -- not definitely in Concord. The only voucher is the one collected by Thoreau on June 2, 1859 with no locality given. Since his *Journal* records that he went to Flint's Pond in Lincoln, MA that day, the likelihood is that this was not collected in Concord. Thoreau identified the specimen as Carex stellulata, and it was most recently identified as Carex atlantica subsp. atlantica in 1988 by the Carex specialist A.A. Reznicek (at this author's behest).

Carex interior -- voucher specimen is misidentified specimen of Carex echinata subsp. echinata. The range of Carex interior is north and west of Middlesex County, MA.

Carex rostrata var. rostrata -- voucher specimens are misidentified Carex utriculata since Carex rostrata var. rostrata in New England occurs only in northern Maine and northern New Hampshire.

Carum carvi -- no voucher for wild occurrence. Pratt does not list this. It is included without comment in an addendum of three loose pages associated with his manuscript after his death. Hosmer lists this without comment. Eaton says this is "Uncommon?" Specimen in Thoreau herbarium without date or locality. There three references to it in Thoreau's *Journal*. On June 2, 1854 he notes it in flower and naturalized in S. Barrett's front yard, on June 3, 1855 as in flower in a garden, and on June 2, 1856 in a garden. Although Eaton accepts Thoreau's specimen as a voucher, its occurrence in the wild in Concord is not established.

- Chenopodium boscianum -- this species, Chenopodium berlandieri var. boscianum, is not known from Massachusetts. Eaton's voucher specimen in NEBC has been re-identified as Chenopodium album.
- Dryopteris spinulosa var. fructuosa -- now considered a hybrid, Dryopteris x triploidea (Dryopteris carthusiana X Dryopteris intermedia).
- Echium vulgare var. pustulatum -- now not considered distinct from the typical variety.
- Helianthus laetiflorus var. laetiflorus -- now considered a hybrid, Helianthus x laetiflorus (Helianthus pauciflorus X Helianthus tuberosus).
- Hieracium marianum -- now considered a hybrid, Hieracium x marianum (Hieracium gronovii or scabrum X Hieracium venosum).
- Isoëtes riparia -- identification on Eaton's voucher specimen is in doubt.
- Lycopodium inundatum var. robustum -- now considered a hybrid, Lycopodiella x robusta (Lycopodiella alopecuroides X Lycopodiella inundata).
- Lycopodium obscurum var. dendroideum -- now considered a species, Lycopodium dendroideum, with distribution to the north and west of Concord with no records yet in Middlesex County, MA, in spite of Eaton characterizing this as common in Concord. All vouchers he cites for this would simply be Lycopodium obscurum.
- Mentha piperita -- now considered a hybrid, Mentha x piperita (Mentha aquatica X Mentha spicata).
- Panicum lanuginosum var. lanuginosum -- now considered to be Panicum acuminatum var. acuminatum with distribution in Massachusetts limited to the southeastern part of the state. Most likely all the specimens that Eaton refers to under this name (a variety he says is common) are actually Panicum acuminatum var. fasciculatum.
- Parthenocissus vitaceae -- only voucher specimen is not labeled from Concord, only "road to Natick."
- Polygonum ramosissimum -- voucher has been identified as Polygonum aviculare subsp. neglectum.
- Potamogeton pulcher -- the 1886 Morong specimen that Eaton relies on as the voucher for this was later identified as Potamogeton amplifolius. Thoreau's two *Journal* references to Potamogeton pulcher are too uncertain to establish occurrence in Concord for this difficult genus, although the distribution of this species makes occurrence in Concord possible.
- Pycnanthemum clinopodioides -- now considered a hybrid, Pycnanthem x clinopodioides (Pycnanthemum incanum X Pycnanthemum verticillatum).
- Pyrus americana -- the immature voucher specimen in NEBC is not accepted as establishing Sorbus americana occurring in Concord in the wild, likely only a waif.
- Pyrus floribunda -- now considered to be a hybrid, Aronia x prunifolia (Aronia arbutifolia X Aronia melanocarpa).
- Sida spinosa -- voucher specimen collected by Laurence E. Richardson in 1970 is missing, suggesting that it has since been reidentified as another species.
- Smilax glauca var. leurophylla -- Eaton cites the specimen in Thoreau's herbarium as the sole voucher for this, but that specimen is labeled "Truro '55" and not "June 1885[sic]" as Eaton claims. The range of this species barely reaches Middlesex County, MA and certainly would have been remarked upon by Thoreau if he had found it in Concord, which he did not. His herbarium collection of this corresponds to his mention of it in flower in his *Journal* on July 7, 1855 while in the vicinity of the Highland Lighthouse in Truro, MA.
- Sparganium androcladum -- voucher specimen is misidentified specimen of Sparganium americanum.

Thalictrum dasycarpum -- voucher specimen in NEBC is misidentified specimen of Thalictrum pubescens.

Tilia europaea -- this is now considered to be a hybrid, Tilia x europea (Tilia cordata X Tilia platyphyllos).

Typha glauca -- now consideed a hybrid (Typha angustifolia X Typha latifolia).

Ulmus procera -- voucher specimen is misidentified specimen of Ulmus americana.

Urtica dioica -- voucher specimen is misidentified Urtica dioica subsp. gracilis (Urtica procera).

Veronica persica -- voucher specimen is collected from a cultivated habitat.

Viola affinis -- Eaton's voucher specimen has been annotated to be Viola sororia.

Viola papilionacea -- an ambiguous taxon that does not appear to belong under or be well separated from currently recognized Viola species.

Viola tricolor -- no voucher for occurrence in a wild habitat.

Xyris caroliniana – This name actually refers to Xyris difformis. Hosmer's voucher specimen in NEBC was annotated to be Xyris montana in 1975 by Harry Ahles.

Zanthoxylum americanum – although there is a specimen in NEBC collected from Concord by Hosmer, Hosmer does not include such a notable find in his detailed list of wild plants of Concord and surrounding towns carefully maintained until a few days of his death, nor in his journal. Likely this collection of it was not a wild occurrence.

## APPENDIX D: -- Species Listed by Alfred W. Hosmer excluded in this flora

Below is a list of plant species included in Hosmer's manuscript "List of the Wild Flowers (and time of blooming) of Concord, Mass. and vicinity as observed by Alfred W. Hosmer" (1903) [see References] that are not included in this online flora due to absence of an acceptable voucher specimen, except as otherwise noted in a few cases. Species that he lists only for localities in neighboring towns are not included below. The plant names listed below are the names used by Hosmer with modern names given in square brackets if there is a difference.

Acer pseudoplatanus -- reported as introduced as shade trees.

Aesculus hippocastanum -- reported as introduced and a shade tree.

Ambrosia trifida -- reported at William Hunt's with two flowering dates (1892, 1893). Listed by Eaton in an appendix as unlikely in Concord. No reference to this in Thoreau's *Journal* and no specimen in his herbarium. Not listed by Pratt. Not listed in the *Flora of Middlesex County, Massachusetts* (1888).

Anemone pennsylvanica [Anemone canadensis] -- reported near the north quarter schoolhouse with flowering dates noted for only three years (1895, 1896, 1902).

Aralia trifolia [Panax trifolius] -- reported without comment with many flowering dates. Eaton lists this in an appendix as probably in Concord. There are no references to this in Thoreau's *Journal*. Specimen in Thoreau herbarium is not from Massachusetts. This author has seen it plentiful in an area near the east side of Flint's Pond in neighboring Lincoln, MA. Pratt apparently found it there also, calling it rare, "Found in moist woods bordering a brook south of Samuel Hartwell's in Lincoln." Hosmer's listing is likely to this site as well.

Aspidium acrostichoides var. incisum [Polystichum acrostichoides] -- reported from Conantum. This is now considered included in Polystichum acrostichoides.

Aspidium boottii [Dryopteris x boottii] -- reported as rather common. This is now considered a hybrid (Dryopteris cristata X Dryopteris intermedia).

- Aspidium cristatum var. clintonianum [Dryopteris clintoniana] -- reported without comment. Eaton lists this in an appendix as unlikely in Concord. Pratt says he introduced this from the Vermont mountains. The *Flora of Middlesex County, Massachusetts* (1888) simply notes this from two towns well east of Concord.
- Aspidium goldianum [Drypteris goldiana] -- reported at Pratt's Swamp. This is a Pratt introduction from Vermont.
- Asplenium ruta-muraria -- reported from Conantum. This is a Pratt introduction from Vermont.
- Aster ptarmicoides [Solidago ptarmicoides] -- reported from Bateman's [Pond] with only one flowering date (1891). This was a Pratt introduction from Vermont.
- Aster salicifolius [Symphyotrichum praealtum] -- reported without comment with many flowering dates. Since this has been recorded in Massachusetts only from Suffolk County, it is most likely that Hosmer refers instead to the similar, variable, common Symphyotrichum paniculatum that he lists separately as Aster paniculatus.
- Barbarea praecox [Barbarea verna] -- reported at the Boston & Maine Railroad near Lowell Road with only one flowering date given (1902).
- Boltonia asteroides [most likely var. recognita] -- reported from Bateman's Pond and the lime kiln [Estabrook Woods] as introduced by Hosmer himself with many flowering dates. This was also introduced by Pratt from Pennsylvania.
- Botrychium ternatum (typical) [Botrychium multifidum] -- reported as common. Eaton lists this (including the equivalent Botrychium var. intermedium) as unlikely in Concord. Pratt does not list this. No reference to this in Thoreau's *Journal* and no specimen in his herbarium. The *Flora of Middlesex County, Massachusetts* (1888) reports this as infrequent with three towns listed including Concord based upon a George E. Davenport Catalogue.
- Botrychium ternatum var. obliquum [Botrychium dissectum] -- reported as rather common. This is currently considered included in Botrychium dissectum.
- Brassica campestris [Brassica rapa] -- reported as common with many flowering dates. There are about three references to this in Thoreau's *Journal* but all of these are in relation to distinguishing it from Brassica napus, this latter being what he settles on as the identity of the plant he found. Brassica rapa is much more widespread in New England as an escape than Brassica napus and is likely in Concord (as Hosmer reports), even though Eaton lists it in an appendix as unlikely in Concord.
- Callitriche verna -- probably referring to Callitriche palustris; no voucher found.
- Campanula americana -- reported from Pratt's. Eaton and Pratt do not list this. This has not been recorded from New England.
- Campanula carpathica [Campanula carpatica] -- reported from Cemetery [Sleepy Hollow] with one flowering date (1891). Eaton and Pratt do not list this. In New England this has only been recorded from Connecticut.
- Catalpa bignonioides -- reported as introduced as shade trees. The more common species escaped in the Concord area is Catalpa speciosa which is often not easily distinguished from Catalpa bignonioides.
- Cerastium vulgatum [Cerastium glomeratum] -- reported in Rockery, introduced from New York state, presumably by Hosmer. There was much confusion between the Linnaean names "Cerastium vulgatum" and "Cerastium viscosum," even into the 20<sup>th</sup> century, but it is clear that Hosmer applies "Cerastium vulgatum" to what is now known as Cerastium glomeratum rather than to the common Cerastium fontanum subsp. vulgare (Hosmer's "Cerastium viscosum").
- Chenopodium polyspermum -- reported without comment with many flowering dates. In Massachusetts this has only been recorded in one county in the western part of the state.

- Chenopodium urbicum -- reported without comment with many flowering dates. Eaton and Pratt do not list this. No reference to this in Thoreau's *Journal* and no specimen in his herbarium. The *Flora of Middlesex County, Massachusetts* (1888) cites this from three towns north and east of Concord.
- Cnicus horridulus [Cirsium horridulum] -- reported from Brown's Meadow with many flowering dates. Eaton and Pratt do not list this. There are about six references to this in Thoreau's *Journal*. On July 30, 1853 he asks himself if it is this out of bloom on the north side of T. Wheeler's meadow and notes apparently the same plant by the L. Hosmer road at Nut Meadow Brook in Brown's Meadow. All but one of Thoreau's other references appear to refer to the occurences mentioned on July 30, 1853. Specimen in Thoreau's herbarium is not from Concord. The *Flora of Middlesex County, Massachusetts* (1888) says this is rather scarce and found only near salt water.
- Corallorhiza odontorhiza -- reported from Walden woods with three flowering dates (1892, 1893, 1894). Eaton lists this in an appendix as very unlikely in Concord. Pratt does not list this. There are about three references to this in Thoreau's *Journal*, the last of which he indicates that he does not know it from Concord. No specimen in Thoreau's herbarium. The *Flora of Middlesex County, Massachusetts* (1888) does not list this, but there are records for it in Middlesex County.
- Cypripedium pubescens [Cypripedium parviflorum var. pubescens] -- reported from Pratt's Spring and a neighboring town with many flowering dates. This was a Pratt introduction from the Botanical Garden in Cambridge, MA.
- Cystopteris bulbifera -- reported from Pratt's Swamp, the Lime Quarry [Estabrook Woods] and Mill Race [Estabrook Woods]. This is a Pratt introduction from Vermont. All the localities cited by Hosmer are near Pratt's residence. Hosmer's specimen of this in the NEBC is treated here as collection of a temporarily persistent, introduced species.
- Cystopteris fragilis var. dentata [Cystopteris tenuis or Cystopteris fragilis] -- reported without comment. This is no longer considered a separate taxon. Considered a mere form by Fernald in the 8<sup>th</sup> edition of *Gray's Manual of Botany* (1950), it is now either included in Cystopteris tenuis recorded from Concord or the uncommon Cystopteris fragilis not recorded from Concord.
- Dianthus barbatus -- reported at a dump and also in Acton, MA with many flowering dates. Erigeron philadelphicus -- reported as common with many flowering dates. Eaton lists this in an appendix as unlikely in Concord. There are two references to this in Thoreau's *Journal*, one with a question mark and the other outside of Massachusetts. No specimen in Thoreau's herbarium. Not listed by Pratt. The *Flora of Middlesex County, Massachusetts* (1888) calls this rare and notes only three townships for it, all north of Concord.
- Erodium moschatum -- reported in A.B.C. Dakin's Asparagus Field, found in 1897, which is the only flowering date. No reference to this in Thoreau's *Journal* or by Eaton.
- Euphorbia preslii -- reported from Conantum with many flowering dates. This is now included under Euphorbia maculata.
- Fragaria vesca [including subsp. vesca & subsp. americana] -- reported as common. Eaton lists the two subspecies (as varieties) in an appendix as unlikely in Concord. Pratt says this is occasionally met with in the fields north of Punkatasset Hill. There is one reference to this in Thoreau's *Journal*, but not to wild occurrence in Concord, and no specimen in his herbarium. The *Flora of Middlesex County, Massachusetts* (1888) says this is common in the northwestern section [not Concord] of the county, but infrequent in the eastern sections.

- Geranium carolinianum -- reported at Conantum with seven flowering dates (1892, 1894, 1896, 1897, 1899, 1900, 1902). There is one reference to this in Thoreau's *Journal* but not from Concord. Eaton lists this in an appendix as unlikely in Concord.
- Hieracium gronovii -- reported without comment with one flowering date (1889). Eaton and Pratt do not list this. There are about 10 references to this in Thoreau's *Journal*. However, in his last reference on July 29, 1856 Thoreau acknowledges his error in using this name for some specimens of Hieracium venosum "... so I will give it up." This has not been recorded from Middlesex County, MA.
- Hydrophyllum appendiculatum -- reported from Hosmer's Ledge and from Lincoln, MA with many flowering dates. This species has not been recorded from New England.
- Impatiens pallida -- reported at Dam Meadow, Spruce Swamp and Punkatasset Hill with seven flowering dates (1888, 1890, 1891, 1894, 1899, 1900, 1901). Eaton states that there is a Hosmer specimen of this but that it lacks collection data. There is no reference to this in Thoreau's *Journal*. There is no record of this in Massachusetts east of Worcester County other than the Hosmer specimen.
- Ipomea purpurea [Ipomoea purpurea] -- reported from a dump with four flowering dates (1899, 1900, 1901, 1902). Not listed by Eaton or Pratt. No reference to this in Thoreau's *Journal* or specimen in his herbarium. The *Flora of Middlesex County, Massachusetts* (1888) simply says this is occasionally found escaped.
- Iris cristata -- reported from "Pratt's Spring (Swamp)" with six flowering dates (1891, 1892, 1893, 1894, 1895, 1902). The only record for this in New England is in Essex County, MA.
- Lespedeza violacea [Lespedeza frutescens] -- reported at Conantum. Eaton lists this (as Lespedeza violacea) in an appendix as probably in Concord.
- Ligustrum vulgare -- reported at the Lime Kiln [Estabrook Woods]. Eaton lists this in an appendix as probably in Concord. There are about 13 references to this in Thoreau's *Journal*, but none of them clearly to occurrence in the wild. Specimen in Thoreau herbarium without date or locality. Pratt states it is a common hedge plant and goes on to relate: "In 1871, I first found an old bush growing wild in the old rocky pasture near the Lime-kiln, within two rods of a path I had traveled hundreds of times for the previous 25 years." The *Flora of Middlesex County, Massachusetts* (1888) simply says it is common.
- Linum usitatissimum -- reported near A.G. Fuller's with seven flowering dates (1888, 1889, 1890, 1891, 1892, 1894, 1896). Eaton includes this in an appendix as unlikely in Concord. Pratt does not list this. There are two references to this in Thoreau's *Journal*, neither to wild occurrence in Concord.
- Lithospermum arvense [Buglossoides arvense] -- reported from River Street with three flowering dates (1900, 1901, 1902). Eaton lists this in an appendix as probably in Concord. Pratt does not list this. No reference to this in Thoreau's *Journal* and no specimen in his herbarium. The *Flora of Middlesex County, Massachusetts* (1888) says this is not common, listing a few towns to the north and southeast of Concord.
- Lobelia dortmanna -- reported from Walden Pond and two localities outside Concord. Pratt lists this only from Sandy Pond [Flint's Pond] in Lincoln, MA (as does Hosmer) and "presume it is also in some of our Concord ponds." Eaton lists it in an appendix as unlikely in Concord, "apparently absent from Walden, White and Bateman's ponds." There are about 11 references to this in Thoreau's *Journal*, all of which in the Concord vicinity are to the occurrence at Sandy Pond. Specimen in Thoreau herbarium is from Flint's Pond in Lincoln, MA.

- Lophanthus scrophulariaefolius [Agastache scrophulariifolia] -- reported at Conantum with seven flowering dates (1891, 1892, 1893, 1894, 1896, 1897, 1898). Eaton and Pratt do not list this. There are no references to this in Thoreau's *Journal* and no specimen in his herbarium. This has not been recorded from Middlesex County, MA.
- Lycopodium alpinum var. sabinaefolium [Diphasiastrum x sabinifolium] -- reported without comment. This has not been recorded in Massachusetts, and its distribution in New England is limited to areas well north of Concord. Hosmer most likely with this name is referring to Lycopodiella inundata which bears some resemblance.
- Mentha aquatica -- reported without comment with many flowering dates. Any examples of this in New England are likely to be Mentha aquatica var. citrata. Eaton and Pratt do not list this. There are no references to this in Thoreau's *Journal* and no specimen in his herbarium. This is not listed in the *Flora of Middlesex County, Massachusetts* (1888).
- Mentha piperita -- now considered a hybrid, Mentha x piperita (Mentha aquatica X Mentha spicata).
- Mitella diphylla -- reported from Punkatasset Hill, Ball's Hill and Keyes' Rockery with seven flowering dates (1878, 1890, 1891, 1893, 1894, 1901, 1902). This was a Pratt introduction from Vermont.
- Myosotis arvensis -- reported from Walden Pond with nine flowering dates (1895, 1896, 1897, 1897, 1899, 1900, 1901, 1902, 1903). Listed by Eaton in an appendix as unlikely in Concord. Pratt does not list this. No reference to this in Thoreau's *Journal* or specimen in his herbarium. The *Flora of Middlesex County, Massachusetts* (1888) says this is scarce, listing four towns -- east, southwest, northwest, and north of Concord.
- Nicandra physaloides -- reported from Lowell Road with no flowering dates. Eaton and Pratt do not list this. There is one reference to this in Thoreau's *Journal*, but not to occurrence in Concord. No specimen in Thoreau's herbarium. The *Flora of Middlesex County, Massachusetts* (1888) simply states that it is not very common.
- Oenothera biennis var. grandiflora [Oenothera grandiflora] -- reported without comment with many flowering dates. Not listed by Eaton, but is considered included in Oenothera biennis in Gray's Manual of Botany  $8^{th}$  ed. This has only been recorded in New England from Vermont, but reported as escaped in Malden in the Flora of Middlesex County, Massachusetts (1888).
- Oenothera fruticosa -- reported without comment and only one flowering date (1878). Not listed by Eaton. No reference to this in Thoreau's *Journal* or specimen in his herbarium. This has not been recorded from Middlesex County, MA.
- Onoclea sensibilis var. obtusilobata [Onoclea sensibilis] -- reported without comment. This is now considered included in Onoclea sensibilis.
- Osmorhiza brevistylis [Osmorhiza claytonii] -- reported near Minot Pratt's and Monument Street (which is also the street of the Pratt residence). This was a Pratt introduction from Chelsea, MA.
- Populus balsamifera var. candicans [Populus x jackii] -- reported as rather common with many flowering dates. This is now considered a hybrid (Populus balsamifera X Populus deltoides).
- Potamogeton vaseyi -- reported without comment with many flowering dates. Eaton lists this in an appendix as very unlikely. Pratt lists no Potamogeton species. No reference to this in Thoreau's *Journal* and no specimen in his herbarium. The *Flora of Middlesex County, Massachusetts* (1888) simply notes this from two towns well east of Concord.
- Potentilla tridentata [Sibbaldiosis tridentata] -- Reported from Punkatasset Hill with many flowering dates. This is a Pratt introduction from the White Mountains of New Hampshire.

- Prunus persica -- reported on Virginia Road with many flowering dates. Eaton does not list this. There are about 32 references to this in Thoreau's *Journal*, all under the common name "peach," but no specimen in his herbarium.
- Pyrus arbutifolia [Aronia arbutifolia] -- reported as common. Eaton does not list this but refers to it under his entry for Pyrus floribunda [Aronia x prunifolia] where he states that this is more southern and reaches Essex County, MA along the coast, and where it is rare. There are about 20 references to this in Thoreau's *Journal*, but most or all of these would refer to Aronia melanocarpa. Most likely Hosmer refers to the hybrid Aronia x prunifolia which Eaton says is frequent in Concord.
- Quercus robur -- reported at Pratt's. Pratt and Eaton do not list this. Thoreau refers to it about four times in his *Journal*, but none are references to Concord occurrence. This author found this in 1976 as a small colony of escaped on land of the National Historic Park at the south end of Liberty Street. But in 2014 only a couple small seedlings and one mature tree were seen.
- Rosa blanda -- reported as common. It is uncertain which rose Hosmer intended, as this name in his time applied to the same species known by this name today, but which has not been recorded from eastern Massachusetts. Eaton does not list this. There are no references to it in Thoreau's *Journal* and no specimen in his herbarium. Pratt lists this with a question mark and no comment.
- Rosa cinnamomea -- listed with no comment and six flowering dates (1897, 1898, 1899, 1900, 1901, 1902). Eaton does not list this. There are no references to this in Thoreau's *Journal* and no specimen in his herbarium.
- Sabbatia chloroides [Sabatia kennedyana] -- reported at Bateman's Pond and near Minot Pratt's, where there was also a white-flowered one, with many flowering dates. This was a Pratt introduction from Weymouth, MA.
- Sabbatia gracilis [Sabatia campanulata] -- reported off Lexington Road with one flowering date (1897). Eaton and Pratt do not list this. This was obviously an unsuccessful attempt to introduce this species recorded in New England only from southeastern Massachusetts.
- Sagittaria variabilis var. angustifolia [Sagittaria latifolia] -- reported without comment with many flowering dates. This is currently included under Sagittaria latifolia.
- Sagittaria variabilis var. hastata [Sagittaria latifolia] -- reported without comment with many flowering dates. This is currently included under Sagittaria latifolia.
- Sedum acre -- reported from Monument Street. Eaton lists this in an appendix as unlikely in Concord. There are no references to this in Thoreau's *Journal* and no specimen in his herbarium.
- Senecio vulgaris -- reported without comment with many flowering dates. Eaton lists this in an appendix as probably in Concord. There are two references to it in Thoreau's *Journal*, neither to occurrence in Concord. Specimen in Thoreau herbarium is not from Concord. Not listed by Pratt. The *Flora of Middlesex County, Massachusetts* (1888) says this is not common save in the towns near Boston with the town of occurrence closest to Concord appearing to be Marlboro.
- Silene nocturna -- reported from a dump on Lowell Road and also in Sudbury with only three flowering dates (1896, 1901, 1902). This is a Eurasian species not recorded from New England.
- Solanum tuberosum -- reported from a dump with four flowering dates (1899, 1900, 1901, 1902). Eaton and Pratt do not list this. There is one reference to this in Thoreau's *Journal*,

- but not to wild occurrence in Concord. Specimen in Thoreau herbarium without date or locality. The Flora of Middlesex County, Massachusetts (1888) simply lists habitat.
- Solidago macrophylla -- reported without comment with one flowering date (1888). This has not been recorded from eastern or central Massachusetts. There are about 10 references to this (as Solidago thyrsoidea) in Thoreau's *Journal*, none of which are to occurrence in Massachusetts. Specimen in his herbarium is outside of Massachusetts.
- Sonchus oleraceus -- reported without comment with nine flowering dates (1890, 1891, 1892, 1893, 1894, 1895, 1896, 1897, 1898). Eaton lists this in an appendix as probably in Concord. Pratt does not list this. There are three references to this in Thoreau's *Journal*, one to occurrence in Emerson's garden and the other two not to any clear occurrence in the wild. Specimen in Thoreau herbarium is without date or locality.
- Spiraea prunifolia -- reported in woods back of Pratt's. Eaton does not list this. No reference to this in Thoreau's *Journal* or specimen in his herbarium.
- Thalictrum purpurascens [Thalictrum revolutum] -- reported from Conantum with many flowering dates noted. Eaton lists this in an appendix as probably in Concord.
- Tiarella cordifolia -- reported from Punkatasset Hill with many flowering dates. This is a Pratt introduction from Vermont.
- Trillium nivale -- reported at Pratt's Swamp with seven flowering dates (1890, 1892, 1895, 1896, 1897, 1899, 1900). This was a Pratt introduction from Illinois.
- Urtica dioica -- Pratt only lists habitat. Voucher cited by Eaton is misidentified Urtica dioica subsp. gracilis (Urtica procera).
- Urtica urens -- reported without comment with many flowering dates. Eaton does not list this. Pratt says he has noticed it only in his garden. There is one reference to this in Thoreau's *Journal*. On September 22, 1859 he mentions it at the Hunt cellar hole, but with a question mark, and which he says he has never seen before. No specimen in his herbarium. The *Flora of Middlesex County, Massachusetts* (1888) calls this scarce and only notes Pratt's reference and an occurrence in a town east of Concord.
- Vaccinium canadense [Vaccinium myrtilloides] -- reported without comment with one flowering date (1878). This has not been recorded from eastern Massachusetts.
- Verbascum blattaria -- reported as rare, at Pratt's, with two flowering dates (1895, 1899). Eaton lists this in an appendix as unlikely in Concord. Pratt lists it as rare, stating "Doubtful if native here. Have met with a few plants in mowing fields -- seeds probably brought with grass seed. Near Punkatasset [Hill]." No reference to this in Thoreau's *Journal* and no specimen in his herbarium. This author saw one or two plants of this along Lexington Road not far from the Emerson house, but they lasted only one year and were not enough to collect.
- Veronica anagallis [Veronica anagallis-aquatica] -- reported as common with many flowering dates. This has not been recorded from Middlesex County, MA, so that it appears likely that Hosmer intends by this name Veronica arvensis which Eaton says is common and is missing from Hosmer's list.
- Viola pedatifida -- listed without comment with many flowering dates. This is unrecorded in New England and native much further to the west.
- Viola rotundifolia -- reported from Pratt's Woods with many flowering dates. This was a species Minot Pratt introduced from Vermont.

# APPENDIX E: Species Listed by Minot Pratt excluded here

Below is a list of plant species included in the manuscript "Plants of Concord, Natural and Introduced" (1878) of Minot Pratt (see References) that are not included in this online flora due to absence of an acceptable voucher specimen, except as otherwise noted in a few cases. Species that are already listed in Appendix A are not included below. Species with location given by Pratt as outside of Concord are not included. Also, not included below are any species on an addendum of three loose pages associated with Pratt's manuscript after his death. The plant names listed below are the names used by Pratt with modern names given in square brackets if there is a difference.

Abies balsamea -- reported as introduced as a shade tree, specimens in the old Monument grounds and in Sleepy Hollow Cemetery.

Acer pseudoplatanus -- reported as extensively planted for a shade tree.

Aspidium spinulosum var. boottii [Dryopteris x boottii] -- reported as rather rare on borders of swamps. This is now considered to be a hybrid (Dryopteris cristata X Dryopteris intermedia).

Betula papyracea var. minor [Betula minor] -- reported as "a single bush or clump. Occurs in a swamp owned by the heirs of the late Stedman Buttrick, discovered there in 1875 -- a dwarf about 6 or 7 ft. high." In the *Flora of Middlesex County, Massachusetts* (1888) this Pratt report is the only one cited and is for some reason claimed to be in Lexington, MA. The identification must be in error since this species is only known in New England from the mountains in northern Maine, New Hampshire and Vermont.

Cakile americana [Cakile edentula var. edentula] -- reported as rare and found only in his garden -- "Belongs on the seashore."

Cerastium vulgatum [Cerastium glomeratum] -- reported simply from damp grassy fields. See the entry for this in Appendix D the discussion of which applies here, except that Pratt more likely applied both names, Cerastium vulgatum and Cerastium viscosum, to what is now known as Cerastium fontanum subsp. vulgare. Cerastium glomeratum in Massachusetts has only been recorded in the western part of the state.

Coreopsis trichosperma [Bidens trichosperma] -- reported as common. Eaton lists this (as Bidens coronata var. brachyodonta) in an appendix as unlikely in Concord. There is no reference to this in Thoreau's Journal and no specimen in his herbarium. The Flora of Middlesex County, Massachusetts (1888) lists five towns for this including Pratt's report, noting it to be abundant where it occurs at all. The reporting of Pratt and the Flora of Middlesex County of this species as more or less common with neither of these references listing the more common Bidens discoidea (then called Coreopsis discoidea) suggests that Pratt and the Flora of Middlesex County confuse this with Bidens discoidea.

Euphorbia hypericifolia [Euphorbia nutans] -- said by Pratt to be rare occurring only in the vineyard of Richard Barrett, but no voucher specimen from Concord. Thoreau's specimen is without data.

Fragaria vesca -- reported as occasionally met with in the fields north of Punkatasset Hill. See note for this in Appendix D.

Habenaria rotundilfolia [Amerorchis rotundifolia] -- reported without comment preceded by a question mark. In New England this has only been recorded in the northern parts of the Maine, New Hampshire and Vermont.

Heracleum lanatum [Heracleum sphondylium subsp. montanum] -- reported from the northerly part of town. Eaton lists this (as Heracleum maximum) in an appendix as probably in

- Concord. Hosmer noted it only from the neighboring town of Acton, MA. There are about five references to this in Thoreau's *Journal*, but none of them to occurrence in Concord. No specimen in Thoreau herbarium. The *Flora of Middlesex County, Massachusetts* (1888) says this is rare, noting it from four towns including Pratt's report from Concord.
- Impatiens pallida -- reported in shady moist places. See note for this in Appendix D.
- Lepidium ruderale -- reported from roadsides. Eaton lists this as unlikely in Concord. There is no reference to this in Thoreau's *Journal* or specimen in his herbarium. The *Flora of Middlesex County, Massachusetts* (1888) cites this from five towns north, east, and south of Concord, noting that it is rather common in the eastern section of the county.
- Ligustrum vulgare -- reported as a common hedge plant. Pratt goes on to relate: "In 1871, I first found an old bush growing wild in the old rocky pasture near the Lime-kiln, within two rods of a path I had traveled hundreds of times for the previous 25 years." See entry in Appendix D for more information.
- Linum virginianum -- reported as rare, found only near the Sugar Maple grove in the 9-Acre Corner district. Eaton lists this in an appendix as unlikely in Concord. There is no reference to this in Thoreau's *Journal* and no specimen in his herbarium. The *Flora of Middlesex County, Massachusetts* (1888) says it is not very common and begins to list multiple towns for this both east and west of Concord.
- Mentha piperita -- now considered a hybrid, Mentha x piperita (Mentha aquatica X Mentha spicata).
- Onopordum acanthium -- reported as rare, noting that he saw in past years one or two specimens by Virginia Road at roadside, and another near the site of the old Paul Adams house near Bateman's Pond. Eaton lists this in an appendix as unlikely in Concord. There is one reference to this in Thoreau's *Journal*, but not to wild occurrence in Concord. No specimen in Thoreau herbarium. The *Flora of Middlesex County, Massachusetts* (1888) says this is rare and notes it from five towns including Pratt's report from Concord.
- Populus alba -- reported as introduced, a few trees around dwellings.
- Populus balsamifera var. candicans [Populus x jackii] -- reported as an introduced and once popular tree, several specimens near the Old Manse (where this author saw it in the 1970s and early 1980s) and other ancient homesteads. This is now considered a hybrid (Populus balsamifera X Populus deltoides).
- Populus dilatata [Populus nigra] -- reported as an introduced tree, formerly a favorite, a few trees still standing -- one on the hill opposite the Manse [Poplar Hill], and another on the southwest side of Punkatasset Hill. Eaton does not list this. There are about 11 references to this in Thoreau's *Journal*, but none to wild occurrence. No specimen in his herbarium. The *Flora of Middlesex County, Massachusetts* (1888) states that it was formerly extensively culivated and occasionally spontaneous, but apparently dying out.
- Quercus cerris -- reported as two-year-old trees from seed. This has been recorded as an introduced species in eastern Massachusetts, mostly southeast of Concord. Eaton does not list this. There is no reference to this in Thoreau's *Journal* or specimen in his herbarium.
- Quercus imbricaria -- reported among a group of oaks as just a single tree growing. This has not been recorded from Middlesex County, MA.
- Quercus macrocarpa -- reported among a group of oaks as just a single tree growing. This has not been recorded from eastern or central Massachusetts.
- Quercus nigra -- reported among a group of oaks as just a single tree growing. This has not been recorded from New England.

Quercus prinus [Quercus michauxii] -- reported among a group of oaks as just a single tree growing. Pratt uses this name in an old sense as confirmed by his use of the common name Swamp Chestnut Oak. Quercus michauxii has not been recorded in New England.

Ranunculus pensylvanicus -- reported as rare. Not listed by Eaton. There are two references to this in Thoreau's *Journal*, but neither to occurrence in Concord. Specimen in Thoreau herbarium is not from Concord. The *Flora of Middlesex County, Massachusetts* (1888) cites only Pratt's report from Concord and with an asterisk attributing its presence there to his introduction of it. However, there is no evidence for this as an introduction in Pratt's manuscript or in the marginal annotations in Pratt's copy of Gray's *Manual of Botany*.

Rosa blanda -- reported with a question mark and no information. This has not been recorded from eastern Massachusetts.

Salix fragilis [Salix x fragilis] -- This is now considered to be a hybrid (Salix alba X Salix euxina). Sinapis arvensis -- reported as a troublesome weed in some fields.

Stellaria longifolia -- reported from borders of the brooklet leading from the spring on Fairhaven Hill. This is treated as the common Stellaria graminea (from which it was not distinguished in the manuals that Pratt used) in the catalog of this flora above. Eaton lists Stellaria longifolia in an appendix as very unlikely in Concord. The Flora of Middlesex County, Massachusetts (1888) says this is scarce and only cites one town for it well north of Concord.

Tanacetum crispum [Tanacetum vulgare] -- reported at the old Estabrook place and in the roadside near Angier's Mill. This currently is considered a mere form of Tanacetum vulgare.

Thuja occidentalis -- reported as introduced as an ornamental tree and for hedges.

Urtica urens -- reported only in Pratt's garden. See notes for this in Appendix D.

Verbascum blattaria -- reported as rare, found near Punkatasset Hill, having met with a few plants in mowing fields -- seeds probably brought with grass seed. See also entry in Appendix D.

Xanthium strumarium -- reported as rare with only two plants seen in a moist field, a plant that belongs near the seashore. Eaton lists this (as Xanthium chinense) in an appendix as very unlikely in Concord, noting it in nearby Wayland, MA at Heard's Pond, still present in1957. There is one reference to this Thoreau's *Journal*, but not to occurrence in Concord. Specimen in Thoreau herbarium not from Concord. The *Flora of Middlesex County, Massachusetts* (1888) lists four towns for this, two of them north of Concord associated with wool-waste and two other towns well east of Concord.

## APPENDIX F: Images of some William Brace pressed grass specimens

On the following pages are images of pressed specimens of grass species collected by longtime Concord resident and MIT geology professor, William Brace, that he kept in ring binders enclosed in plastic pockets for  $8.5 \times 11$  inch pages. Three of the specimens are new records for Concord (Bromus inermis, Eragrostis cilianensis, and Lolium arundinaceum). The other three specimens (Danthonia compressa, Panicum virgatum and Tridens flavus), are rare in Concord. The image pages are in alphabetical order.

Bromus inermis collected by William Brace on June 16, 1995 at 49 Liberty Street in Concord, MA (according to an index accompanying his specimens in a ringed binder).

Lobes of lemma apex less than .6 mm long; lemmas awnless; lower glume 1nerved; upper glume 3nerved.

R. Angelo 2014



Danthonia compressa collected by William Brace in dry woods at Walden Pond in Concord, MA on July 4, 1995.

Apical teeth of lemma are aristate; panicles taller than 5 cm; panicle branches often divergent; pedicels generally much longer than spikelets; however, leaf blades do not appear to be flat and 2-4 mm wide.

Foliage coming in at right of image is a different specimen.

R. Angelo 2014



Eragrostis cilianensis collected by William Brace in Concord, MA along the old Road to Nine Acre Corner on September 20, 1995.

Plant more than 6 cm tall without stolons; leaf blades with glandular pits along margins (not clearly visible in image, but visible with hand lens in actual specimen); lemma keel with glandular pits; some spikelets with more than 20 florets.

R. Angelo 2014



Lolium arundinaceum collected by William Brace at Keyes Pond (just north of 49 Liberty Street) in Concord, MA on June 9, 1995.

Awns less than 10 mm long, internodes of rachilla antrorsely scabrous; auricles of leaves ciliate; upper glumes often longer than 5 mm.

R. Angelo 2014







## **APPENDIX G: Other Voucher Images**

On the following pages are images that are meant to serve as vouchers until herbarium vouchers are collected and accessioned. In some cases the population of individuals was too small to collect specimens without endangering the population.

EUONYMUS FORTUNEI - photographed by Cole Winstanley in Concord in August 2015.



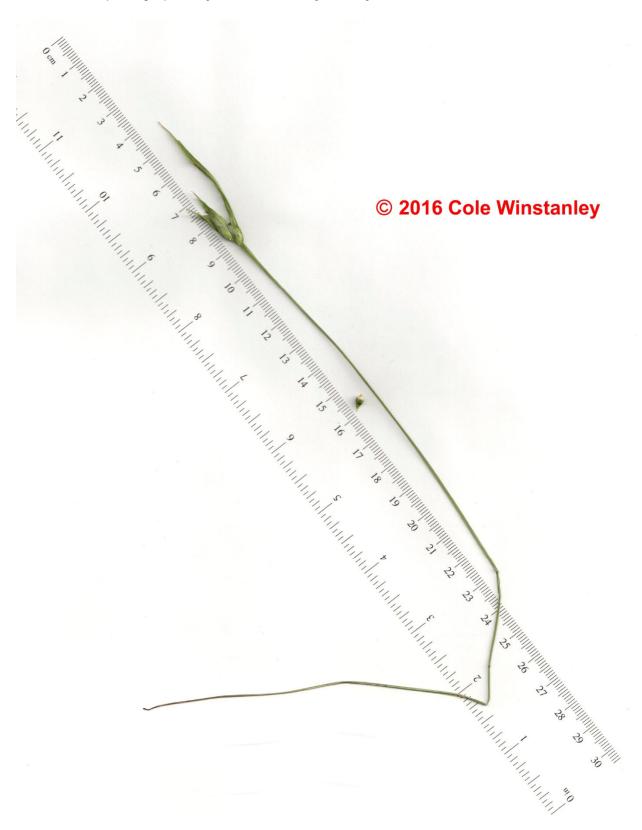
PHYLLOSTACHIS AUREOSULCATA - photographed in Concord in Sept. 2015 by Cole Winstanley.



Polypodium appalachianum - photographed in Concord in by Cole Winstanley on August 28, 2015.



Carex backii - photographed by Cole Winstanley in May 2016.



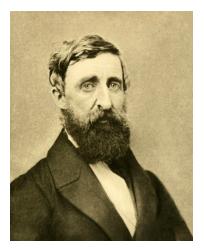
Digitalis grandiflora -- photographed by Cole Winstanley on June 10, 2016.



LUPINUS POLYPHYLLUS -- Photographed by Cole Winstanley on July 2, 2016.



## APPENDIX H: Primary Concord botanists of the past



Henry D. Thoreau in 1861 at the peak of his botanical prowess

Henry David Thoreau (1817-1862). Thoreau studied the flora of the town most intensely from 1850 through 1860. He wrote copious botanical observations about Concord plants and their localities in his Journal. In addition he collected a sizable, well-organized herbarium of pressed plants of approximately 1,500 specimens, including many from his trips outside of Concord. Unfortunately, other than for the difficult groups of Poaceae and Cyperaceae, data beyond identity is absent for most of these. All but a few specimens of Thoreau's collections are at Harvard University (New England Botanical Club and the Archives collections of the Harvard University Botany Libraries). See this author's "Thoreau as Botanist" for more information.

**Minot Pratt** (1805-1878). [No certain image of Pratt is known, but see this author's analysis of a Minot Pratt family photo album <a href="here">here</a>.] Pratt was a Concord farmer-naturalist and friend of Thoreau, with whom he shared botanical information. Pratt lived in Concord from 1845 until his death. He appears to have botanized throughout that time judging from references to him in Thoreau's Journal and the date (August 1872) of one of the few herbarium specimens he collected. He did not study all vascular plant groups in Concord as did Thoreau, but he did leave an impressive manuscript list of Concord plants (Pratt, 1878) that includes most plant families with frequency of occurrence, habitat, and some specific locales for uncommon species. It is likely he knew localities for Concord's flora better than his contemporaries and successors. Pratt is known to have introduced a number of species into Concord, mostly from Vermont and other parts of Massachusetts, and noted most of them in his manuscript. See this author's Biographical Sketch of Minot Pratt.



Edward Sherman Hoar Amherst College Archives & Special Collections Bowles-Hoar Family Papers

Edward S. Hoar (1823 - 1893). Hoar was a quiet, retiring man from a distinguished Concord family. He accompanied Thoreau on some of Thoreau's excursions outside of Concord to other parts of New England as well as within Concord on collected specimens with him. After Thoreau's death Hoar communicated with professional-caliber botanists. He collected Cyperaceae and Poaceae as much as did Thoreau. His collection of Concord plants rivals Thoreau's collection and most importantly contains more information than Thoreau's specimens. His specimens are in the New England Botanical Club collection at Harvard University. See this author's "Edward S. Hoar Revealed".



Alfred W. Hosmer - Thoreau fan with a passion for recording flowering dates

**Alfred Winslow Hosmer** (1851-1903). Hosmer was a lifelong resident of Concord and admirer of Thoreau who apparently took up the study of botany about the time of Pratt's death in 1878 and pursued it primarily between 1888 and 1903, judging from the phenology data in his notebooks. Hosmer (like Pratt) did not study all plant families. Many more herbarium specimens collected by him survive than do of Pratt, but much fewer than Thoreau's or Hoar's. Hosmer's specimens have little data other than identity and town of collection. typically Concord. Hosmer's notebooks in the Concord Free Public Library extend to the year of his untimely death. He botanized in surrounding towns as well as Concord. His notebooks for plants of the Concord vicinity provide flowering dates year-by-year (but no record of locale for each date), frequency of occurrence, and locales for some uncommon species. He published two brief articles on plants introduced into Concord by Minot Pratt in a botanical journal.



Richard J. Eaton - Concord botanist with the most expertise

**Richard Jefferson Eaton** (1890-1976). Eaton was born and raised in Concord and botanized there from about 1920 until about 1970. He studied all vascular plant families. Although not a professional botanist, through his long active membership in the New England Botanical Club, he interacted with professional botanists, and through his 13 years as curator of the extensive NEBC vascular herbarium housed at Harvard University, he developed an expertise in plant identification that easily matched or surpassed all others who have studied or are studying Concord's flora, amateurs and professionals alike. His herbarium collections of Concord plants are the most extensive and contain the best information (habitat, locale, date of collection). Near the end of his life he published the most comprehensive, professional account of the flora of the town to that date (Eaton, 1974). See this author's "In Memoriam".





RICHARD JEFFERSON EATON



Laurence Eaton Richardson (1893-1985). Richardson was a close friend of Richard Eaton, and the two were seventh cousins. It appears that he took up botany late in life as almost all his specimens date from the late 1950s to the early 1970s. His collecting in Concord was extensive and included difficult groups such as Poaceae, Crataegus, and Salix. A large part of his collection was given to Harvard's Concord Field Station in Bedford, MA. The herbarium at that facility was transferred to The New England Wild Flower Society in Framingham, MA. Many of Richardson's specimens are at the Harvard University Herbaria (in the Gray Herbarium and New England Botanical Club herbarium). His specimens are well-done and often provide collection locale within Concord.